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LECTURES

ON

MEDICAL EDUCATION,

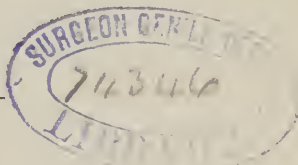
OR ON

THE PROPER METHOD OF STUDYING MEDICINE:

BY

SAMUEL CHEW, M. D.,

PROFESSOR OF THE PRACTICE AND PRINCIPLES OF MEDICINE, AND OF CLINICAL
MEDICINE IN THE UNIVERSITY OF MARYLAND.



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Learn thou, O young man !
God hath appointed wisdom the reward
Of study. 'Tis a well of living waters,
Whose inexhaustible bounties all might drink ;
But few dig deep enough.

SOUTHEY, *Thalaba*, B. 4—15.

Knowledge with us is difficult to gain,
Is difficult to gain, and hard to keep
As virtue's self ; like virtue is beset
With snares ; tried, tempted, subject to decay.

WORDSWORTH. *Excursion*, B. 5.

It much behooves us to improve the best we can our time and talents by studious inquiry ; and since we have a long journey to go, and the days are but short, to take the straightest and most direct road we can find.

LOCKE. *Essay on Study*.

Hanc meam qualemcumque opellam boni consulite ; quod si minus eveniat, hominum mores ita probe perspectos habeo ut non multum fallar, et officii mei rationem ita calleo ut animo nequam cadam.

SYDENHAM. *De Podagra*.

TO
NATHAN R. SMITH, M.D.,
PROFESSOR OF SURGERY
IN THE UNIVERSITY OF MARYLAND,
THIS VOLUME,
AS A TRIBUTE OF RESPECT DUE TO HIS EMINENT TALENTS
AND ADMIRABLE PROFESSIONAL SKILL,
AND IN TESTIMONY OF THE LONG AND UNINTERRUPTED AFFECTION
INSPIRED BY HIS VIRTUES AND WORTH,
IS INSCRIBED
BY HIS FRIEND AND COLLEAGUE,
THE AUTHOR.

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PREFACE.

“I have lately commenced the study of Medicine, and write to consult you on that occasion. What books ought I to read? How shall I read them to most advantage? How many hours daily should be devoted to reading? Is much reading necessary? I am acquainted with several physicians, who, I think, have read but little. I know one who declares that his only guide in the treatment of diseases is his own experience, and that he has never opened a book since he graduated; his friends are of opinion that his reading had been equally extensive before that epoch; and yet he has been extremely successful in business, and has much practice and great reputation. On what branches ought I to attend Lectures during the first session? Is it advisable to take Notes of the Lectures? Is it necessary to attend Clinical Lectures in a Hospital? If necessary, why is it so when we have so many books on the Practice of Medicine?

Are Dissections necessary in the study of Anatomy? They must be very disagreeable; would not plates answer in their stead? Is it necessary to pay attention to Medical Auscultation? My old preceptor considers it wholly useless, and says that he can investigate diseases of the chest better without that mode of examination than any one else can with the help of a cart-load of Stethoscopes. What is the general character of our Medical Schools? Does the Medical Profession in this country stand as high in public estimation at present, as it did in former times? Has it not lost something of its ancient reputation and *prestige*?"

Such are some of the inquiries which almost every student of Medicine addresses to those of whom he seeks counsel in relation to the conduct of his professional studies. It is in reply to these and similar questions that the present volume has been prepared. In it are embodied the opinions and advice respecting certain subjects connected with Medical Education, which the author has long been in the habit of giving to his classes of pupils. Had he been acquainted with any work in which these subjects are briefly handled, he would have spared himself the labour of writing

the following pages. But if there be any treatise of this kind, it seems to be unknown in this part of our country; none such are in the hands of our Medical Students, and none, it is believed, are at this time in our book-stores.

There is no attempt in this work to discuss the entire subject of Medical Education. To do justice to that copious theme would require a much larger volume than the present, and one also far too large for the purpose of the student, already burdened with so weighty a task as the study of Medicine. The only object aimed at is to furnish the young and inexperienced pupil with certain useful precepts and monitions in regard to the labours, the duties, and the opportunities which lie directly before him.

The advice which is offered, will, it is hoped, be found rational and practical, and not too high and difficult for ordinary abilities, and moderate industry. It is students of such abilities, and such industry who are addressed. If there be some of a different grade, they can, perhaps, take care of themselves without assistance from others.

Should some of the doctrines inculcated appear trite and obvious, an apology for that fact may be

found in the age and position of those for whom they are intended—not the learned proficient in medical philosophy, but youthful neophytes, who are just entering upon the rudiments of professional science. For such the lessons may be necessary and useful, which to students of larger knowledge and experience would be wholly superfluous. Whatever instruction is given to the pupil in the commencement of his studies, should, in order to be profitable, be simple and elementary; and care should always be taken not to discourage him by insisting on precepts which he is unable to follow, or by enjoining tasks which he is as yet incapable of performing.

Some of the writers on Medical Education have contended—probably for the purpose of magnifying the Medical Profession, and impressing the public with an exalted idea of its character,—that no one can undertake the study of Medicine with any prospect of success unless endowed with great and peculiar genius, and extraordinary acquirements and accomplishments. The author hopes that he may be pardoned for doubting both the truth of this opinion, and the expediency of expressing it. The real dignity of the Profession cannot be promoted by pre-

tence and exaggeration; *rien n'est beau que le vrai*; and it is wiser to endeavour to benefit and improve such students as resort to our Schools than to occupy our thoughts with those who are imagined or dreamed of by theorists and declaimers. The cardinal principles by which all should be guided who attempt to teach, are the love of truth and the desire to be useful.

Little or nothing is said in this volume respecting the literary education of the student—the education which he should receive before he enters on the study of Medicine. This subject is omitted because the discourses are addressed to those who have already commenced that study. The author would, however, take this opportunity of advising all who are engaged, or who expect to be engaged in the Study of Medicine, to read with careful attention the following works, as among the best preparatives of the mind for the successful pursuit of science:—

Watts on the Improvement of the Mind;

Locke on the Conduct of the Understanding;

Bacon on the Advancement of Learning;

Bacon's *Novum Organum*.

These books may all be obtained at a very small price from almost any of the book-stores. Happy if

industry and capacity to study and understand them be equally at hand !

A work of a different kind, which every student of Medicine should read, and which no ingenuous student can read without signal benefit, is the MEMOIR OF DR. JAMES JACKSON, JR., by his father, the excellent and venerable Professor Jackson, of Harvard University. It is the narrative of a short but intense life of twenty-four years, devoted with extraordinary ardour and success to the acquisition of professional knowledge, and radiant throughout with purity and virtue. *Manibus date lilia plenis*. Biography has among its records nothing more affecting than the story of such a son related by such a father.

BALTIMORE, DECEMBER, 1863.

NOTICE.

It is necessary to add a few words in explanation of the circumstances under which the following lectures are given to the public.

The author had devoted to their preparation such leisure time as he was able to spare from professional engagements throughout the past summer and autumn, with the view of having the volume ready for the use of students in the Medical Colleges during the present winter.

From the belief that his little book would be found a serviceable manual to those for whom it was intended, he had looked forward with much pleasure to its appearance.

It was ordained, however, that he should not witness its publication.

On the morning of the 25th of December, 1863, shortly after the last proof-sheets of the work had been received from the publishers, he was removed from this world, after an illness of one week with pneumonia.

Those who knew him best, know well that whatever of purity and truth is contained in these lessons, is but the clear reflex of his own blameless course:—

“The shape and colour of his mind and life.”

S. C. C.

BALTIMORE, JAN. 1, 1864

MEDICAL EDUCATION.

LECTURE I.

I MAKE no doubt, Gentlemen of the Class, but that in accordance with the abundant measure of prudence and discretion with which Providence has seen fit to endow the younger members of our race, and for which they have in all ages been held by their seniors in just esteem, you have chosen the Profession of Medicine as your business for life not without mature and sufficient deliberation.

It may be reasonably presumed, and I therefore take it for granted, that your selection has been preceded and determined by a full consideration of all the various advantages and disadvantages, evils and blessings, pains and pleasures, that belong, or are supposed to belong, to the Medical Profession.

You have also, no doubt, examined—and of course with impartial eyes—your own ability and fitness for

the trials, the labours, and the duties of that pursuit ;
quid ferre recusent, quid valeant humeri.

You have made your election, well and wisely as we are bound to believe, happily as we cordially hope ; and your choice is certainly in many respects prudent and judicious.

There is nothing in the character of the Medical Profession of which you will have cause to complain. It is a useful and honourable profession. It is one essentially necessary to the welfare of mankind. It is one which has always secured for its true and successful votaries the respect and esteem of the wise and good. It is one, also, by whose duties, studies and labours, you will be assisted and advanced—more, perhaps, than you could be by any other pursuit—in the accomplishment of the most important business of your lives, the great end and object of your existence, the cultivation and improvement of your intellectual and moral faculties.

But admitting the general character of our profession to be all that its friends and admirers can claim or boast,—pure, benevolent and ennobling—the important question still remains, What hopes and prospects does it offer to the youthful cadets who are about to engage in its service ? What honours or other rewards does it promise for their exertions ?

And what amount of exertion, and what degree and character of talents, are necessary to secure the prizes which it is prepared to bestow?

These inquiries are natural and proper, and have doubtless occurred to your minds and been duly pondered. The step which you have taken in commencing your present studies would seem to indicate that your researches have received a satisfactory answer. You have ascertained, I suppose, that the business of physicians is not wholly without merit as a remunerative or lucrative pursuit; and that your future professional labours, to whatever other evils they may leave you exposed, will at least secure you against the pressure of those pecuniary distresses which so many learned scholars have experienced, and which many of them have so earnestly and eloquently lamented.

Such expectations may be justly entertained. They are sanctioned by the general experience of those who have gone before you. It is undoubtedly true of your profession, that in no other vocation are capacity, knowledge, and industry more certain to find an adequate reward.

But it behooves you to be on your guard against the error, so common among the young, of cherishing over-sanguine and unreasonable hopes. It is best that in this, as in all other respects, you should see

your profession in the light of truth and reality, and should know at once that, generally speaking, it is not a pursuit that leads to wealth. You might easily find a more profitable field for the exercise of your talents.

Yet if you look around upon the various occupations of mankind, especially upon those which are considered most favourable for the acquisition of riches, a calm examination will show you that many of them labour under certain grave disadvantages which materially diminish the force of their attractions, and might well cause you to pause before you adopt them as your business for life.

Thus, from the useful and reputable labours and ventures of Commerce you might derive far greater affluence than it is at all probable you will ever acquire from the practice of Medicine. But prudence will point out to you the uncertainties and perils which infest this walk of life as constituting formidable objections to its selection.

There are other pursuits and occupations, well reputed, not unprofitable, and in which good and respectable men are engaged, which you might notwithstanding be unwilling to embrace; which you might justly object to, as being incompatible with mental culture and with the prosecution of those intellectual studies and inquiries on which depend some of the

greatest and most lasting pleasures of rational existence.

There are also other kinds of business, extremely profitable, which I think you would avoid and reject from higher and more important considerations. For at your age, when the "shades of the prison-house" have not yet darkened your minds, and when the lions of the den in which you are cast have not yet gotten the mastery over you, you doubtless understand and believe what at a later period so many forget, that for riches it is both possible and common to pay far too high a price.

Aristotle has given many wise precepts respecting the duty and the means of acquiring and preserving wealth; but these precepts are followed and illustrated by numerous cases in which this object was accomplished by methods which the astute philosophers who pursue their business in Wall street would entitle *sharp practice*, and which all the rest of mankind would call unqualified knavery.*

And this *sharp practice*, to use the milder term, is resorted to by multitudes who never heard the name of the mighty Stagirite, but who may boast that in this respect they are more sturdy Aristotelians than Aristotle

* *Economics*, B. 1. C. 6. & B. 2. C. 2—42.

himself, and that, like Bacon, they have gone far beyond the narrow limits of the Peripatetic philosophy. It would be easy to point out illustrations of this truth. They are conspicuous on every side. The pursuits in which you see your compatriots engaged are many of them of a nature to which you can scarcely incline, unless your minds are more liberated than I think they are from certain antiquated prejudices on the subject of honesty and honour; pursuits in which wealth, the doubtful good which they promise, is more than balanced by the weighty and inevitable evils which they bring,—by the dangers, the criminality, the shame, the infamy which attend them.

The profession which you have embraced offers (thank God!) no opportunities for the sudden acquisition of wealth without the rendering of equivalent services to the community. Yet it possesses many advantages even as a means of obtaining a livelihood and securing pecuniary independence. The prizes which it bestows are less brilliant than those which are gained in some other pursuits; but they are more numerous and more certain, and may be sought with but little hazard to moral rectitude, and won without obloquy, and without injury to others.

But I trust and am sure, it is not this consideration alone which has attached you to your profession.

That profession presents higher and nobler elaims; elaims on your affection and reverence; elaims founded on the eharacter of its quiet studies and its active labours; attraetive and delightful studies, direeted to the investigation of the most wonderful of God's works in this world—the human body and the human mind; beneficent labours, devoted to the earrying of health and safety, or of solace and relief, to the afflicted and miserable among our fellow-men. When we consider what our profession is, what it has done, what it is hourly doing for the benefit of mankind, we shall hear with but small regard the opinions of those who estimate all pursuits merely by the gain which they bring, and depreciate our calling as a poor, ill-paid and unprofitable business. Devote yourselves to the duties of your profession, live as becomes the faithful and zealous disciples of science, and you may turn away with contempt, or at least with pity, from the paltry wisdom of such philosophers.

It was a proverb in former times in relation to the respektive prospects of lawyers and physicians, that Galen bestows wealth and Justinian confers honours—*Galenus dat opes, Justinianus honores*. This adage, if still true, is, like most other attempts to express in a few words the results of long observation and experience, true only in a restricted and qualified sense.

On what terms and conditions, and for what merits and good services Justinian in our age and in this country elevates his disciples to eminence and office through the most sweet voices of the people, it is no business of yours or mine to inquire. Of the Medical hierarch with whom we are concerned, it is evident, that if he was ever in the extremely unwise habit of imparting his golden favours to all without exception who call themselves his followers, he has long since reformed his custom and adopted a more discriminating policy. His rule at present is to give nothing for nothing. He bestows rewards on those only who labour for them. In no wise does he favour the sluggish and idle. Those who expect to succeed without effort and merely by virtue of their professional title, he dooms to inevitable failure. For among the few certainties of our uncertain mortal state, you may set it down as one of the most certain that without industry no man will succeed as a physician,—that without industry no man will obtain and retain such a measure of professional business as will secure him that outward prosperity which is commonly regarded by the wise men of our time as the only true success and the only real happiness.

If you desire to succeed as physicians, industry is indispensable. Various other qualities may aid and

expedite your success ; qualities some of them good, generous and noble, and others of a widely different nature. Among those who have attained in our profession what is called success, have been persons of perfectly opposite characters,—the very best and wisest, and also the most unwise, the most abandoned and the basest of mankind. But however dissimilar in all other respects, they have all, whether good or bad, wise or foolish, resembled each other, as you will find on inquiry, in one remarkable trait of character,—they have all been industrious. And you will find also, that their success has been in pretty direct proportion to their degree of industry ; and that it was far more the result of their industry than of any other quality they may have possessed.

There are, as is well known, innumerable examples in every walk of life which prove that as the means of achieving success even genius is vain and futile in comparison with that strength of will which manifests itself in the form of patient and untiring industry. When Robespierre was commencing that tragical career which was destined to form so hideous a portion of his country's history, he appeared to labour under almost every disadvantage by which the prospects of a political aspirant could be darkened and obstructed. His aspect, his manner, his voice, his deficiency of

knowledge, his evident narrowness of intellect, were all, as it seemed, combined to confine him for life to a position of obscure and vulgar mediocrity. But it was soon observed that the Deputy of Arras was willing to labour, eager to labour, indefatigable in labouring. Derided as a public speaker, he continued day after day to ascend the tribune and renew his efforts. Heard only with contempt, coughed down, disowned by his own party and by all parties, lost among the distinguished orators and statesmen of the Assembly, constantly repulsed and defeated, he was yet never disheartened. He possessed, in short, the faculty of unconquerable industry; and it was this trait in his character which led the clear-sighted Mirabeau to predict the eminence which he would reach. "This young man," he said, "will go very far, for he is perfectly in earnest." And it is true and certain, not in the political arena alone but in every department of life, that those who are perfectly in earnest will always go very far.

Miracle-working industry! the faculty which lies within the reach of the humblest intellect; the talent by which the humblest intellect is oftentimes enabled to accomplish tasks which appeared to defy all efforts but those of transcendent genius! But is it true that this faculty, this talent, can be made available in your

business? Powerful in the hands of others, can it be used with equal or similar efficacy by the student of Medicine?

Peculiar Talents.—To this inquiry you must often have heard a negative reply. You have often, no doubt, heard it said, that those who are born with no natural aptitude for Medicine, can never become physicians; that no labour or industry can make them such. Few are the students of Medicine against whose aspirations and prospects predictions sad and sombre have not been uttered on the strength of this dogma. Few also, perhaps, who have not themselves in moments of despondency been oppressed by apprehension that they are deficient in proper talents for the profession they have chosen, and are labouring, *invita Minerva*, in a business for which they are not fitted, and to which no diligence or industry can ever adapt them.

But is it indeed true that any peculiar natural talent is necessary for the successful study or successful practice of our profession? This is a question which well deserves consideration, and to which it is not difficult to find a satisfactory answer.

What are the natural talents necessary for the physician, and without which he cannot be in his profession what a wise man, what a humane and benevo-

lent man, what a proud man, or what even a vain man would desire to be?

They are few and simple, and by no means peculiar. They are merely good senses and good sense.

To be capable of becoming a physician, it is necessary that the student should possess those senses in an ordinary degree of integrity by which we take cognizance of the outward world. And he must also possess the higher endowment of good sense or judgment, the faculty by which we derive just conclusions from the ideas received into the mind from without.

Without a tolerably healthy condition of the physical senses, it is difficult or impossible for one to attain excellence in the medical profession, or in any other profession in which knowledge must be gained by observation. The blind man can never by any degree of application become a proficient in medical physiognomy, or learn to read in the lineaments of his patients' faces the nature and character of their diseases. He is ill-prepared to detect the Rose Spots of Typhoid Fever, or the Petechiæ of Typhus Fever, or the blue line by which lead-poison declares its presence, or the numerous other signs and symptoms which address themselves only to the sense of vision. The deaf man can never, whatever his zeal and industry, train his dull ear to that marvellous cunning

of audition which in recent times has laid open to the adept the most hidden secrets of the breast, the faintest sighings of the heart. The man whose fingers are covered with horn, or who from any other cause is destitute of the sense of touch, the *tactus communis*, can never acquire the delicate tact, the *tactus eruditus*, which is often so necessary to the physician and surgeon. The language of the pulse he can never learn to interpret. He can never hope to equal that wise Arabian leech, Thabet Eb'n Abraham, of whom we are told that by applying his finger for an instant to the artery he could ascertain whether his patient had eaten mutton-chop instead of beef-steak, or drunk camel's milk instead of cow's milk, or coffee from Hodeida instead of coffee from Mocha. To accomplish such feats, or even feats less wonderful than these, the artist must commence with organs of the senses that labor under no natural deficiency.

And so likewise there must be integrity of judgment: There must be good sense.

“ Good sense which only is the gift of heav'n,
And though no science, fairly worth the seven ;
A light which in yourselves you must perceive,
Harvey and Hunter have it not to give.”

A man whom nature has made a fool, no college, no training, no discipline, can ever convert into a

physician; a fool being unquestionably the worst material of which one can attempt to make a Doctor of Medicine, or of any other useful science. If the student, so called, have a brain that is incapable of comprehending that two and two make four; or that cannot remember which are the larger, the large or the small bones of the skeleton—and I witnessed such a case some years ago in the examination-room; or if he resemble the young medical gentleman, with whom some of you were acquainted, whose friend contended in his behalf that he was of excellent capacity, except that he had no judgment and could never remember anything; in any of these cases he is certainly not likely to be educated into a very profound philosopher. He must be numbered among the crowd who are fated to be neither useful by applying, nor illustrious by improving the resources of science. Yet he may find Medicine,—such men often find Medicine—a gainful and profitable business. He may grow wealthy by its practice. He may look wise and learned, which for certain purposes is more useful than to be such; and he may stand high with that vast portion of mankind whose intellect is like his own. But being a fool it is written down against him in the book of destiny that he shall never be a physician:

—“Science to his eyes her ample page,
Rich with the spoils of time, shall ne’er unfold.”

This, however, is an infliction of but small severity, since he has no eyes to read her records, and generally no heart to value any pages but those of his ledger, or to enjoy any spoils but those of his patients.

But putting aside the extreme cases of either physical or mental deficiency, and looking only to the ordinary and average abilities of mankind, there are certainly but few persons who may not, by proper training from others and by proper exertion on their own part, become qualified to be useful as physicians. Not all alike; not all equally useful. Some men have naturally better senses than others; some have naturally better sense than others; some are consequently more easily trained than others, and trained to higher excellence. But the difference which we find among physicians depends not by any means so much upon what nature has done, as upon what art has done; not by any means so much upon original difference among them in their senses or their sense, as upon difference in the training they have received, and especially upon the different degrees of industry and perseverance with which they have cultivated their natural capacities. Those capacities are susceptible of almost indefinite improvement, and towards their improvement well directed industry has wonderful efficacy, being in the business of mental culture

scarcely less potent than that religious faith to which nothing is impossible. Whoever possesses the physical senses in any moderate degree of integrity, may by industry and pains-taking become a good medical observer. Whoever possesses the faculty of reason in any moderate degree of integrity, may by industry and pains-taking become a good medical thinker. And whoever has become a good medical observer and a good medical thinker, though he may be destitute of a peculiar natural talent for Medicine and of extraordinary genius for anything, is yet well prepared to be useful as a physician.

Do not understand me, Gentlemen, as thinking lightly of the qualifications necessary for a physician. I know the true and high value of those qualifications. I know that those who possess them possess unquestionable claims to respect and honor among their fellow-men. But I believe that they are more the product of art and education than the mere gift of nature. I believe that high and useful as they are, they are within the reach of the greater part of mankind—of almost all who with proper patience and industry will labor to attain them.

And I doubt not that the same thing is true with regard to the talents required in any other of the necessary and common pursuits of life. It is true in

the Courts of Law. It is true in the Church. It is true in the Merchants' Exchange. Who that has had opportunities for seeing and judging, supposes for a moment that success is attained in those several spheres, and useful and distinguished parts performed, only by men of extraordinary natural abilities, and of peculiar natural bent of genius? Such extraordinary minds are in reality extremely rare; nature produces but few of them. Wonderful intellects are not necessary for the every day business of life. A mind of peculiar and astonishing attributes may perhaps be required for the attainment of the highest excellence in some of the fine arts. Such perhaps was the mind of some of the great sculptors and painters. Such certainly was the mind of some of the great poets, not the rhymsters, sonnetteers, and metre ballad-mongers, but the true poets, few in number, who in different ages and different countries have arisen to instruct and delight mankind. Whether an intellect equally peculiar was necessary for the elaboration of that greatest work of Science, the *Principia* of Sir Isaac Newton, we need not pause to inquire. Newton himself believed that it was not, and asserted that he differed from other men only by the habit which he had formed of keeping whatever he was studying constantly before his mind. Those who

think differently may discuss the question with Sir Isaac, and decide it as they please. Of this you may feel assured, that for the common pursuits of life common abilities, properly cultivated, are sufficient. And with regard to the strong tendency which some persons are said to evince towards particular studies and occupations, this, I believe, will in almost all cases be found to depend far less upon original mental temperament than upon accidental circumstances which have given the inclinations of the individual an especial direction, and induced him to devote to one kind of business the abilities and talents which with the same industry and perseverance would have found equal enjoyment and equal success in any other.

I think then, gentlemen, for the reasons I have stated, that you have no cause for apprehension and distrust in relation to your fitness for the business which you have undertaken. The student who is conscious of nothing that can impede his professional progress but the want of extraordinary genius, or the peculiar bent of that genius towards his profession, may justly entertain a comfortable assurance of success. If you cultivate in the best manner the abilities which you possess, and apply them earnestly and patiently to the study of your profession, neither you nor that profession will have cause to regret the selection which you have made of your walk in life.

Not one of you but may become so wise in science and so skilful in art as to be highly useful to the community. Not one of you but may become such as your profession will delight to honour, and be proud to rank high hereafter on the long catalogue of her true and honourable sons.

“If you cultivate in the best manner such abilities as you possess.” This brings me to an important part of the remarks which I propose to submit to your consideration. How are you to cultivate your minds in such a manner as will best fit you for your profession? How are you so to prosecute the study of Medicine as will most speedily, most certainly, and most thoroughly put you in possession of the science and the art which are its subjects?

The answer to this inquiry is everywhere at hand; every one can supply it. You must use strenuously the common means,—books, lectures, demonstrations, clinical observations,—which are every day employed by other students of medical science.

But are these the proper means, the most useful and effectual means, for the accomplishment of the end in view? Are they the means best adapted to prepare you for your future business—to prepare you for the grave duties of a profession in which the lives and happiness of your fellow-men will so often be dependent on your knowledge and skill?

To this I answer, that I am acquainted with no better means. The ingenuity and good sense of mankind, aided by long experience in many ages and many countries, appear to have not yet devised any that are better.

But you will please to observe, that however good and fit these means in themselves may be, their utility in any given case must depend very much upon the manner in which they are used. Like the remedies which it will in future be your business to administer, they are very useful if properly employed, and very useless or very pernicious if employed improperly.

The proper and improper modes of employing them, will be the subject of some of the ensuing lectures.

LECTURE II.

It is not the having within our reach the means of obtaining knowledge that can improve and enlighten our minds. We must make use of those means, or we shall live and die in ignorance ; and we must use them skilfully and judiciously, or we shall fail to obtain from them all the help and benefit which they are capable of affording.

The means for acquiring medical knowledge are often employed, even where there is sufficiency of industry and patience, with such extreme lack of judgment that the result is a beggarly account of lost years, wasted labour, and disappointed hopes. They are often employed in such a manner that they serve only to enfeeble and prostrate the intellect, or to fill the mind with a farrago of false notions and erroneous opinions that are more worthless and more dangerous than the simple and primitive ignorance which they supplanted.

I shall proceed to notice some of the most common and most important of the errors to which students

are liable in the use of those means, and to state the cautions which are necessary in order to avoid them.

READING.

How is it with regard to reading as one of the processes for acquiring medical knowledge? Is the method of reading to advantage generally understood by students, and generally practised? Or does it sometimes happen that this mode of study is so conducted as to be feeble or impotent to do good, and yet powerful to do mischief?

Let us consider these questions; and I think we shall find that there are certain popular and grave errors in relation to this subject which are capable of being rectified, and which, if neglected, must necessarily impede and retard the progress of the student in the path of mental improvement.

Reading is undoubtedly one of the most useful means of gaining knowledge to which the student of Medicine, or the student of any other science, can resort. It imparts to the individual, to a certain degree, the benefit of the experience of a multitude of minds. It endows the short-lived being of a few fleeting and agitated years with the accumulated knowledge of many centuries. It puts him who has but little ability or opportunity for observation in possession of the rich stores collected by the most gifted and fortu-

nate observers. It makes him who has but little talent for reasoning acquainted with the arguments and conclusions of the most powerful intellects. So important, in short, is reading as a mode of study, that it is popularly considered the only mode; and to study and to read are used as synonymous or convertible terms. Thus you who are engaged in the study of Medicine are said to be reading Medicine; students of Law, to be reading Law; and students of Theology, to be reading Theology. It is, indeed, an extremely common opinion, that no one can study without reading, and that no one can read without studying.

Extremely common, but also extremely erroneous and utterly false. There are other modes of study besides reading, and without which reading is of but small value; and it is quite possible and quite common to read abundantly and superabundantly and yet not study at all.

Reading is to the mind what food is to the body. Like food, it may be injurious by being used to excess, or by being of improper quality, unnutritious or unwholesome. Like food also, if used improperly, it gives rise to Dyspepsia—mental Dyspepsia—characterized, like the physical variety of the disease, by debility, distention, flatulence and other evil symptoms.

The errors most common among those who are labouring to obtain knowledge by reading, are,

1. That they read without judicious and proper selection of books.

2. That they read too much.

3. That they read without thinking, and consequently without understanding.

A moment's reflection will show you the evil influence upon mental progress that must result from any *one* of these errors. And it is easy to imagine what the effect must be when all three of them are united, as they often are, in the practice of the same person.

I. *Ill Selection*.—The necessity for careful selection must be evident to all who consider the infinite multitude of books, the immense diversity of their characters, the limited powers of the human mind, and the brief duration of human life.

The making of books, from the days of Cadmus down to the present time, has been the business or the amusement of some of the wisest and some of the least wise of our race, of some of the most virtuous and some of the most profligate; and the character of books is necessarily in almost all cases strongly tinged by that of their authors.

In medical literature, you will find volumes which no man can read properly, and study faithfully, and understand fully, without being better prepared for

the duties of our profession. But these *books that are books* are comparatively few in number. They dwell sad and lonely, like the patriarch and his family, in the thronged City of the Plain, elbowed, oppressed, and well nigh overwhelmed by a mob of atrocious neighbors. "Nowhere more than in Medicine," says Frederick Hoffman, "will you find books that are worthless and delusive, making mighty promises in their red title pages, and giving miserable performance in all the black pages which follow."* Books of this description, the offspring of ignorance and dulness that have mistaken themselves for learning and genius, or of profligate charlatanry inspired by thirst for gain, were certainly never more abundant than at present. We behold them on every side,—

"Innumerable, as when the potent rod
Of Amram's Son, in Ægypt's evil day,
Upcall'd a cloud of locusts o'er the land."†

From among the motley crew of what are called medical authors, the blindest of wayfarers may easily procure guides blinder than himself. From the abundant stores of what is called medical literature,

* Complures multum promittunt in rubro, parum praestant in nigro: Pomposo nempe et splendido titulo emptores alliciunt, ut intus contentæ nugæ bilem postea facilius moveant.

De Difficultatibus in Medicina addiscenda, 23

† Paradise Lost, 1—338.

the student may easily select such a course of reading as will lead him into darkness rather than into light, —as will make him more ignorant of science than he was before he formed acquaintance with the alphabet, —as will consume his days and nights in toil and weariness, and give him in return only false facts, false reasonings, false and foolish opinions, seeming knowledge, and real, substantial and unequivocal ignorance.

“I may justly complain and truly,” says the learned Anatomist of Melancholy, “that I have read many books to but little purpose, for want of good selection; that I have confusedly tumbled over divers authors with small profit, for want of art, order, memory, judgment, and good choice.” The Student of Medicine, unless he exercise judgment and good choice in the selection of books, may read many volumes and tumble over many authors to less profit than Robert Burton, and have no one to quote his lamentation over his lost hours and fruitless studies two hundred years after he has followed his patients to the grave.

In our association with the living, we are often compelled by the strong arm of circumstances to contract acquaintance and intimacy with those from whom we can derive but little profit, pleasure, or credit. But among books where our choice is per-

fectly free and uncontrolled, if we fall into "base and scurvy companionship," and select for our guides and friends, the weak, the trivial, the corrupt, instead of the wise and pure, it is inexcusable folly, and indicates a deficiency of judgment and pravity of taste, which it is certain to increase and perpetuate.*

When we contemplate the immense number of books in every department of learning, we are at first apt to be appalled by the unbounded prospect that lies before us. The student is apt to feel that an attempt to master any subject of inquiry by reading all that has been written respecting it, is like setting sail on a voyage of circumnavigation by the way of the North-west Passage. A brief examination will relieve his apprehensions. He will soon find that the vast hostile array before him is not unlike one of those ancient Persian or Indian armies, in which all the real strength resided in a small detachment, while the rest of the countless host was a mere confused rabblement which might be safely despised.

An acquaintance with the contents of a large medical library will tend to change our wonder at the number of books into astonishment at the enormous

* Non minus a recta mentis ratione feruntur
Decepti, quam qui, liquidi cum procula fontes
Sufficiant, malunt graveolentem haurire paludem.

VIDA, *Poeticorum*, lib. 1.

multitude of copyists and plagiaries who have flourished among book-makers.*

Those who understand the real worth of such a library would be unwilling to consign it to the tender mercies of a Caliph Omar. Those who know the character of a large proportion of its volumes, would rejoice to see it subjected to the critical hands of those most illustrious of reviewers, Doctor Perez the curate, and Master Nicholas the barber. It would furnish a larger amount of fuel than the library of Don Quixote; and its value, like that of the books of the Sibyl, would rise in proportion to the reduction of its bulk.†

* Quod si quis ab officinis ad bibliothecas se converterit, et immensam, quam videmus, librorum varietatem in admiratione habuerit, is, examinatis et diligentius introspectis ipsorum librorum materiis et contentis, obstupescet certe in contrarium; et postquam nullum dari finem repetitionibus observaverit, quamque homines eadem agant et loquantur, ab admiratione varietatis transibit admiraculum indigentiae et paucitatis earum rerum, quae hominum mentes adhuc tenuerunt et occuparunt. BACON, *Novum Organum*, Lib. 1.

Aphorism, 85.

Scito enim conferentem auctores me deprehendisse a juratissimis et proximis veteres transcriptos ad verbum, neque nominatos.

PLINIUS, *Nat. Hist. Lib.* 1.

† 'Tis not a melancholy *utinam* of my own, but the 'desires of better heads, that there were a general Synod, not to unite the incompatible difference of religion, but for the benefit of learning to reduce it as it lay at first, into a few and solid authors; and to

Nothing is more true than the remark of Locke, that "He who will inquire out the best books in every science and inform himself of the most material authors, will not find it an infinite work to acquaint himself with the sentiments of mankind concerning the most weighty and comprehensive subjects."*

If you collect such books on the subject of Medicine as are useful and necessary, such as will be sufficient for your purpose, and will do for you all that books are capable of doing, you will find that they form a library of no vast extent; and that to become acquainted with them all, though it will demand labour and diligence, is yet a task which by labour and diligence, can be certainly accomplished.

To know what books you should *not* read, is a part of education fully as important as to know what you should read. This useful knowledge you should endeavour to obtain from your instructors, or other judicious friends, in order that you may avoid the loss of time and labour in reading books only to discover that they are worthless.

By taking care in early life to read only such

condemn to the fire those swarms and millions of rhapsodies, produced only to distract and abuse the weaker judgments of scholars, and to maintain the trade and mystery of typographers.

SIR THOMAS BROWNE, *Religio Medici*, 1, 24,

* *Conduct of the Understanding*, 1.

books as are of eminent excellence, you will soon lose all inclination for works of inferior merit. A moderate number of good books, read, and read again, and thoroughly studied, will save you from books of a different character, not only by occupying your time, but also by so improving your judgment and taste that you will have no relish for the paltry productions of ignorance, pretence and falsehood. To the few great works on any subject, as compared with the vulgar crowd of books, may be applied, in a qualified sense, what has been said by an enthusiast of the writings of Homer:—

“Read Homer once, and you can read no more ;
For all books else appear so mean, so poor,
Verse will seem prose ; but still persist to read,
And Homer will be all the books you need.”

I would advise you—especially those of your number who have but recently commenced the study of medicine—to confine yourselves, during the session of the College, to one good treatise on each of the departments or branches of science which you are studying. You will not, while attending Lectures, have time for more than one, and you will gain more information by reading one carefully than by making hurried attempts to read many.

It has been said, that the student will derive five times as much knowledge from reading one good

book five times, as from reading five equally good books on the same subject only once. For the arithmetical accuracy of this estimate I would not be answerable; but the principle on which it is made is undoubtedly correct.

Sydenham has given a useful and impressive lesson on this subject, though his precept certainly savours but little of that extreme modesty for which the British Hippocrates is said to have been so remarkable. "As for the works," he says, "which I have published, if the reader give them only a single perusal, I am sorry to be the means of making him lose his time; but if he will read them often, *and commit them to memory*, I am sure he will reap such advantage from them as will in some measure equal my wish, and the great pains I have been at in making and compiling them."*

As a general rule for the conduct of your reading, I can suggest nothing better than the brief and comprehensive advice given by the younger Pliny—"To

* Quæ hæcenus in publicum dedi, si quis ea semel tantum perlegere dignetur, est quod doleam, me huic eam perdendi temporis ansam præbuisse. Quod si eadem sæpius relegere voluerit, et alta mente reponere, nullus dubito quin eum fructum ex iis capiet qui voto et magnis laboribus quod ego in istis observationibus faciendis componendisquæ locavi, aliquatenus respondeat.

read much, but not to read many books."* You should select the best books, and render them familiar to your minds by attentive and repeated perusals. And, after this, when you seek to extend your reading, in doing so you should respect the wise prescript of Bacon, that, "Some books are to be tasted, others to be swallowed, and some few to be chewed and digested; that is, some books are to be read only in parts; others to be read, but not curiously; and some few to be read wholly, and with diligence and attention."†

* Tu memineris sui cujusque generis auctores diligenter eligere aiant enim, *Multum legendum esse, non multa.* Lib. 7, *Epist.* 9.

† *Essays*, 50.—See also to the same effect other illustrious authorities: Certis ingeniis immorari et innutriri oportet, si velis aliquid trahere quod in animo fideliter sedeat. Nusquam est, qui ubique est. Distrahit animum librorum multitudo. Fastidientis stomachi est multa degustare; quæ ubi varia sunt et diversa, inquinant non alunt. Probatos itaque semper lege; et si quando ad alios divertere libuerit, ad priores redi.—SENECA, *Epist.* 2.

Quo mihi innumerabiles libros et bibliothecas, quarum dominus vix tota vita sua indices perlegit? Onerat discentem turba, non instruit; multoque satius est paucis te auctoribus tradere, quam errare per multos.—IDEM, *De Tranquil.* *Animi*, 9.

Diu non nisi optimus quisque, et qui credentem sibi minime fallat, legendus est; sed diligenter, ac pene ad scribendi sollicitudinem: nec per partes modo scrutanda omnia, sed perlectus liber utique ex integro resumendus.—QUINTILIAN. Lib. 10. C. 2.

Make Bacon, Locke, and Shakspeare your chief companions through life; let them be ever upon your table, and when you have an hour to spare, spend it upon them.—BISHOP WATSON.

II. *Too much Reading.*—To read too much is an error, perhaps less common at the present day than to read with ill selection. Yet it is by no means rare, and it is always dangerous and injurious.

Reading is intended as a help to the mind; but the mind may be enfeebled by having too much help. It may be prevented from learning to exert its native powers, and acting for itself. It may experience a calamity like that of a petty state which has called in powerful allies to protect it against its enemies, and in the end has been oppressed and enslaved by the arms from which it sought assistance. No one ever gained strength by continually eating; no one ever gained wisdom by continually reading.

Mr. Hobbes, the renowned philosopher of Malmesbury, whose reading is said to have been confined almost exclusively to four authors—Homer, Thucydides, Euclid, and Virgil—was accustomed to say that he himself would have been as great a fool as other scholars, if he had read as much. It is certainly very

Sir John Cheeke, the venerable scholar who “once taught Cambridge and King Edward, Greek,” gives a rather more copious catalogue of books, and has the grace to insert among them the BIBLE, which the *apologetic* bishop has somehow overlooked or forgotten. “He that will dwell in these few bookes onelie; first in God’s Holy Bible; and then joyne with it Tullie in Latin; and Plato, Aristotle, Xenophon, Isocrates and Demosthenes in Greeke, must needes prove an excellent man.”

foolish to hope to grow wise by using the mind as a mere passive recipient for the thoughts and opinions of others. The intellect must have time to act upon the accumulations which it has derived from without, or those accumulations will have been made to no purpose.

Plato, in one of the most interesting of his admirable dialogues, tells us, on the authority of his oracle, Socrates, that the inventor of the Alphabet and of the art of Writing, after having completed his great work, visited a King of the Egyptian Thebes, who was celebrated for his wisdom, for the purpose of explaining to him the nature of the improvement which he had made. He expatiated with natural complacency upon the utility of the new art, expecting that it would necessarily command approbation and applause as an invaluable instrument for increasing, diffusing, and perpetuating knowledge, and especially for assisting the memory. The King, however, after considering the subject, assured the artist that his invention would produce just the contrary effect to that he anticipated; that it might give the *appearance*, but could never supply the *reality* of wisdom; that it would weaken the minds of those who used it by diminishing the motives for mental exertion; and in particular, that it would destroy the memory, by making men contented with remembering outwardly

by means of artificial signs, instead of inwardly by the help of their own faculties.”*

That there is some degree of truth in these opinions of the wise, though not *learned* Theban, must be admitted by all who have observed and reflected. If books be properly used, used within just limits, the evil which they cause is in a large measure counteracted, or compensated, by their good effects. But when they usurp the whole of the student's hours, though they may afford him much harmless amusement, all the world knows that the only attributes of wisdom which they generally give are a dyspeptic stomach and defective eye-sight.

How many Hours? Students of Medicine, who like you, are diligent, ambitious, and anxious to make the best use of their time, often inquire how many hours they ought daily to devote to reading. It will readily occur to your reflection, that it must be not a little difficult to fix upon any exact number that would be proper in every case. No absolute rule with regard to this matter has, I believe, ever been attempted among physicians, notwithstanding the venerable example set us by the learned Faculty of the Law. The members of that body are advised by Lord Coke, in the words of the memorable verses, to devote six hours every day to the study of Law, six

* See the *Phædrus*, 134, 135.

to sleep, two to refreshment, four to prayers and devotion, and the rest of the twenty-four to literature.* This distribution of the day has by all lawyers and students of Law in the United States and in England, and, I suppose, equally in all other countries, been ever since observed with religious exactness, except that those of the present day are generally understood to have lengthened by a few additional hours the period assigned for devotion. We have not adopted a similar regulation, probably in consequence of the opinion which prevails among us that the amount of reading, and other modes of study, should be adjusted to the character of the mind, and habits of each individual; and that which is enough for one may be too much for another, and too little for a third.

Wonderful Students.—You are perhaps acquainted with the famous legends and myths with which some seek to stimulate, and others to reproach and humble the common crowd of students. They tell us how Eichhorn studied sixteen hours daily for fifty-five years without the omission of a single day; how Bu-

* “Nunquam prospere succedunt res humanæ ubi negliguntur divinæ; therein I would have our student follow the advice given in those ancient verses for the good spending of the day :

Sex horas somno, totidem des legibus æquis,
 Quatuor orabis, des epulisque duas,
 Quod superest ultro sacris largire Camænis.”

LORD COKE, *Institutes*, L. 2. C. 1. Sec. 85.

dæus, through the whole of his life, up to the age of seventy-three, studied also sixteen hours every day, except the day of his marriage, when he was so annoyed and overpowered, as he said, by the women-kind, that, sad to relate, he accomplished only fourteen hours; how Warburton lived upon bread and water, that he might have less necessity for exercise, and more time for study; how Griesbach studied during the severest weather of winter with his feet immersed in a bucket of cold water, that he might avoid falling asleep; how Hemsterhuis, that he might study the more, refrained from sleep two nights in every week; how Aristotle never slept more than two hours in twenty-four; and how some other great author—I forget his name—was so excessively studious that he differed from all the rest of the human race, and especially from the readers of his own works, in the remarkable circumstance that he never slept at all.

Now, with regard to all of these grave cases, admitting them to be correctly stated, which is a liberal admission, and admitting also that the venerable gentlemen whom they implicate were profited by such excess of study, which is an admission still more liberal, it is yet evident that to apply them as the basis of a general rule, is to apply them very injudiciously. As wise would it be to counsel all men to

adopt the regimen and diet of the great Gargantua—the tons of beef, mutton, and gammons, the botargos, the sausages, and the mustard by the shovelful,—rations, which though they might agree well enough with the stomach and appetite of Gargantua, would probably be rather oppressive to a dyspeptic Grahamite, who has been compelled all his days to restrict himself to brown bread without butter, and black tea without cream.

Ill Effects.—The great and obvious objection to the habit of too constant reading is, that it prevents thought, reflection, and rumination, without which reading is merely idle amusement, or unprofitable labour. By preventing also a due amount of physical exercise, it tends to disorder and destroy the bodily health; and to no one can it be more important than to a physician to have a healthy body as well as a healthy mind. A course of excessive and protracted study rarely fails to injure both body and mind. Don Quixote, we are told on the unexceptionable authority of his niece, was accustomed to pore over his books of Knight-errantry not infrequently forty-eight hours in succession; and this exorbitancy was no doubt one of the causes which inflicted so much detriment upon “the very best head-piece in all La Mancha.”

Danger to Health.—Ill effects are especially apt

to be occasioned by excess of study when it is suddenly commenced by one who had previously been accustomed to different habits. Of this I have witnessed numerous illustrations. During the session of our College some winters ago, I was called on by a member of the class for advice respecting his health, which was very much out of order. He suffered from sleeplessness, headache, vertigo, confusion of thoughts, failure of memory, and various other symptoms indicative of great disorder of the nervous system. I made several inquiries in relation to the causes of his indisposition without obtaining any satisfactory information. At length, being from my long acquaintance with students of Medicine aware of their proverbial tendency to excessive study, I asked him how many hours he devoted to reading. He replied that he had been studying industriously all the session, and endeavouring to do his best; that he was constantly thinking of the final examination, and generally read twenty-six hours a day. Not, he added in explanation, that he studied twenty-six hours in any one day, for that, to be sure, was impossible; but that he often read twenty-six hours "right ahead, and without stopping." Upon hearing this, I explained to him that it was his heroic but rather injudicious industry which was injuring his health; that he would never get *ahead* in his studies

by such a *right-a-head* method of studying; and that the brain, like the lungs, the stomach, the muscles, or any other part of the system, may be fatigued, exhausted, or destroyed by immoderate or ill-regulated exertions.

Be not too Cautious.—Yet I almost repent that I have referred to the subject of danger from excessive study. The evil of not studying sufficiently, or not studying at all, is at present so much more common among those who are called students, that a teacher may in general exhort all who are intrusted to his care to use their utmost industry, without any apprehension that they will follow his counsel too far, or impair their health by undue exertion. The caution which I have ventured to give against excess of study, you will therefore please to understand in a restricted and limited sense, and as intended for the few, and not for the many, for the feeble and delicate, not for the vigorous and robust, against extraordinary and manifest imprudence, and not against proper and reasonable application. In almost all cases, study is an exceedingly wholesome and healthy occupation, and by no means apt to injure the health of its votaries, except when pursued with extreme and gross indiscretion. Not one of you, I think, is in the least danger of being injured by it. The tendency of scientific and literary studies is to maintain good health and

secure long life. Many of those, both among the ancients and moderns, who have been most constantly and successfully engaged in such studies have attained great longevity. I might mention the names of Plato, Xenophon, Socrates, Locke, Newton, Humboldt, Bossuet, Chaucer, Dryden, Lafontaine, Fontenelle, Voltaire, Johnson, Goethe, and a host of others ; but it is unnecessary to dwell upon this subject, as such cases are familiar to every one. The waters of Hippocrene and Castalia appear, indeed, to possess in some measure the virtues of that Fountain of Rejuvenescence which Ponce de Leon sought in vain among the ever-glades of Florida. Physicians are said to be, as a class, short-lived ; if this be so, it is certainly not owing to their studious habits ; I have never heard of one of them being destroyed, or known one of them to be in the smallest degree endangered in wind or limb by such habits. The general brevity of their lives probably depends on the fatigues and exposures belonging to their business ; or perhaps on their constant succession of cares and anxieties from sympathy with the sufferings of their patients. You have for the present no cares of this kind, and none, I hope, of any kind, to disturb your health ; and of injury from the prosecution of your professional studies with the utmost ardour of which you are capable, you may dismiss all apprehension, provided you observe such

obvious precautions as your own good sense and experience will dictate, without counsel from others.

How much Study?—With regard to the amount of your daily reading, you should arrange it with proper reference to your mental and physical habits, strength, power of endurance, and the demands of other modes of study, and of other duties. In this, as in every thing else, the student should endeavour to avoid extremes. He should read industriously, as knowing that reading is one of the most important means for acquiring knowledge, and that he who neglects to read can never become acquainted with science. But at the same time his industry and ardour should be tempered with discretion. He should not read forty-eight hours in succession, or even twenty-six hours in a single day. And above all, he should not be so immersed in books as to spare no time to listen, to converse, to observe, and to reflect.

LECTURE III.

III. *Not sufficient Reflection.*—It is the neglect to spare time for reflection that constitutes the third of the errors which were mentioned as being common among readers. It is the most common of them all—the great epidemic of the reading world, and the principal cause of a vast deal of reading being done to little or no useful purpose.

Among the peculiar doctrines of the Hindoo Mythology, it was taught, as we are told by the most bookful of Laureates, that prayers, penances, and sacrifices possess an inherent and actual value, not at all depending upon the disposition or motives of him who performs them. They are considered as drafts upon heaven, for which the gods are not at liberty to refuse payment. A somewhat similar superstition appears to prevail very generally in relation to the efficacy of reading as a means of improving the understanding. It seems to be thought that the process of reading, in whatever manner conducted, has a necessary and specific power to confer wisdom; that if

a certain length of time be daily and yearly consumed among books, the result must inevitably be a proportionate increase in knowledge; and that if a certain number of volumes be read, whatever wisdom they contain must, as a thing of course, be transferred to the mind of the reader. All that is necessary, according to the common notion, to put one in possession of knowledge and mental ability, is to be a diligent student; and all that is required to constitute him a diligent student, is that he be an industrious and persevering reader.

Such is the prevalent doctrine. Very little thought is required to perceive its absurdity.

In order to derive any real advantage from reading, it is necessary in the first place, that we should distinctly comprehend what is asserted or denied in each proposition that we read.

This is the easiest part of the labour; but it is not always performed or even thought of, by great readers, many of whom read in the same manner as Milton's daughters read Homer and Euripides. And when it is performed, it is not all that is necessary.

It is not sufficient to know barely what opinions or doctrines are stated in the books. This may be called historic knowledge, and is of but very small value. We must, in addition, inquire whether or not these opinions are correct and true. And to do this,

we must understand and follow the train of the author's reasonings, observe the strength and closeness of their connexion, and ascertain upon what they are founded. In short, we must think. We must meditate and reflect, interrogate our own minds, and admit no conclusions without comprehending their reason and evidence.*

To read in this manner is, I know, a slow and difficult process. It cannot be done without a good deal of labour, especially in the first years of your study, or when you are commencing the investigation of any new subject. But be of good courage, and persevere; your labour will be amply rewarded. What you find at first so difficult, will, after a time become easy, as it becomes habitual; and when you have formed the habit of reading with thought and meditation, you have obtained the golden key to all the treasures that lie hid in books. When you have read in this manner—“*read, marked, learned and inwardly digested,*”—the few best books on any subject, you can afterwards read any other on the same subject with ease and rapidity; for you will generally

* Prima cura sit, ut rem penitus intelligas, dein subinde tecum verses et repetas; et in hoc cicurandus est animus, ut dictum est, ut quoties opus est, cogitationi possit insistere. Nam si cui mens est adeo silvestris ut in hoc cicurari non possit, haudquaquam est idonea literis.—ERASMUS, *Ars Notoria*.

find but little in them to detain you—but little that is new, or with which you are not already sufficiently acquainted.*

The first, and the principal difficulty in the art of studying is to command the attention, and to keep the mind fixed on the subject before it. How hard it is to do this, you will observe if you notice the child who is taking his first painful lessons in literature; or the much older pupil, who is for the first time endeavouring to learn something from books. You will

* Southey's mode of reading may furnish the advanced student a useful suggestion:—"He was as rapid a reader as could be conceived, having the power of perceiving by a glance down the page whether it contained anything which he was likely to make use of. A slip of paper lay on his desk, and was used as a marker; and with a slightly pencilled S he would note down the passage, put a reference on the paper, with some brief note of the subject, which he would transfer to his note-book, and in the course of a few hours he had classified and arranged everything in the work which it was likely he would ever want. The quickness with which this was done was very remarkable. I have often known him receive a parcel of books one afternoon, and the next have found his mark throughout perhaps two or three different volumes; yet, if a work took his attention particularly, he was not rapid in its perusal; and on some authors, such as the old divines, he fed, as he expressed it, slowly, and carefully, dwelling on the page, and taking in its contents deeply and deliberately—like an epicure with his wine, 'Searching its subtle flavour.'"—*Southey's Life and Correspondence*.

find that the attention of each of them is continually flying off from the task. To restrain and confine it, almost by force if necessary, is indispensable to success in study. The intellect can do nothing towards the investigation of one subject when it has wandered away to another of a different nature.

If, when you have your medical books open before you, and appear to be buried in their perusal, your thoughts are in reality engaged with other topics; if you are occupied with the memory or the anticipation of pleasures and amusements; if you are brooding over the various cares and troubles of life; if you are thinking of the Civil War, with "its glory and its havoc," with its "deeds of the war-like, counsels of the wise;" or if, as perhaps with many of you is more frequently the case, you are musing

———"On Rosaline's bright eyes,
On her high forehead, and her scarlet lip,"

if your thoughts are engrossed by any of these topics, or by any other topic than the one which you profess to be studying, you will make but small progress in your study; you will close your books with no more knowledge of their contents than when you opened them; you will receive no more addition to your professional information from the works of Lænnec, Louis, or Watson, than you might gain from

the ribald pages of Antianassa or Tartaretus, or from Dr. Sybbidall's ponderous folio on Lampblaek.

The difficulty of fixing the attention is a difficulty with which all who attempt to study have been obliged to contend. It is a difficulty which no one can succeed as a student without in a greater or less degree surmounting. It can be subdued only by repeated efforts; by turning back in the book, and reading the same passage again and again until it is properly perceived and comprehended. This is troublesome and vexatious; but it can be done, and it must be done if you would read to advantage. The labour of doing it is like the black bread supplied to the army of Charles the 12th. The soldiers complained of its bad quality; the king, in order to reconcile them to its use, commanded a loaf of it to be brought, broke it, ate the whole of it, and said to them, "It is not good, my children, but it can be eaten, and we must eat it." By recurring repeatedly to any subject of study to which we have not at first given sufficient attention, we are enabled not only to understand its meaning, but we gain the additional advantage of fixing it in the memory; for that faculty, as Locke has remarked, depends very much upon attention and repetition.*

* *Essay on the Human Understanding*, B. 2. C. 10.

To the labour of thinking while you read, you should reconcile your minds by reflecting that from any useful book so read you will derive a larger addition to your knowledge, and a greater improvement of your reasoning powers, than you could gain by reading rapidly and thoughtlessly all the volumes that were printed by Aldus and Elzevir, or studied by Bentley and Casaubon.

If it be still objected that the method of reading which I recommend is slow and toilsome, I admit the charge, and acknowledge that there are other modes which have the advantage of being far more easy and expeditious, and which are, for certain purposes, extremely efficacious.

Thus, if we read merely in order to hurry the flight of idle and tedious hours, to kill time as we say—time which kills itself, and will so soon kill us all—it matters but little what books we take up, or in what manner we peruse them, provided they serve for the moment to occupy our attention, and divert our thoughts from other subjects.

Or again, if we read merely for the sake of ostentation,—barely in order to say that we have read certain books or certain authors,—a very slight and hasty perusal will be sufficient for this weighty and valuable object.

Or again, if we read simply in order to know the his-

torical fact that a certain author has expressed a certain opinion, or advocated a certain doctrine, or established a certain system, this also may be easily accomplished, and without the least necessity for inquiring whether the opinion, the doctrine, or the system be right or wrong, true or false.

Reading for any of these purposes is an easy process. But to the young and inexperienced student, when easy, it is also, in general, a comparatively useless process, one but little entitled to the appellation of study, one but little fitted to give knowledge of the facts and principles of science, and one still less adapted to train and prepare the mind for the discovery and investigation of truth. "We should read," says Bacon, "not to contradict and confute, not to believe and take for granted, not to find talk and discourse, but to weigh and consider."*

In the study of science, it is useless to read if you neglect to think. When you resort to books, you should remember that there is but one volume in existence which consists of unalloyed and infallible truth; that in the best of all others there is an admixture of imperfection and error; that the oldest and most solemn of folios, and the newest and most flippant of duodecimos are alike liable to abound

* *Essays*, 59.

with falsehood and absurdity; that you are to act in this world, and to answer in the next, not according to the judgment of book-makers or others, but according to your own; and that you sin against the light of reason and the dignity of your own minds when you adopt opinions merely because you have found them in books, and without considering *whether* they are true, or knowing *why* they are true.

It is the labour and difficulty of thinking that, more than almost anything else, has tended to perpetuate erroneous opinions among mankind, and to make students, or those who profess to be students, the slaves of authority. Servile submission to authority in matters of philosophy has in all ages been one of the principal causes of the slow progress of real knowledge; the cause, which, according to Bacon, "has kept the sciences low, and at a stay, and without growth or advancement."* This fact is conspicuously marked in the history of the Middle Ages, or the Dark Ages, as we complacently call them from their contrast with our enlightened period of Table-moving, Spirit-rapping and other forms of Devil-worship, with their innumerable fit and natural results and consequences, such as Free Love and Civil War. We certainly meet with many striking evidences of

* *De Augmentis Scientiarum, Lib. 1.*

devout respect for authority and disregard for truth and common sense among the records of those Dark Ages. Thus we read a decree of Francis the 1st of France, in 1540, prohibiting Peter Ramus, under pain of corporal punishment, from publishing doctrines contrary to Aristotle and other ancient and approved authors. Thus we find the Parliament of Paris in 1624, ratifying and confirming by solemn enactment all the opinions of Aristotle, and denouncing death against any one who taught or entertained tenets not reconcilable with the writings of that philosopher. Thus also we find the professors in the School of Bologna, those sausage-brained doctors, publishing their decision against Harvey's discovery of the circulation of the blood, on the ground that it was not in accordance with the teachings of Hippocrates and Galen. Observing these and numerous other illustrations of the benighted condition of the human mind in those unhappy ages, we reflect with satisfaction that nothing of the same kind could occur in our own century. And this is, perhaps, in some degree true. No such public declaration in favour of authority and in prohibition of free inquiry could now be ventured. But the human mind is in its tendencies and propensities the same in all ages and all countries. "One touch of nature makes the whole world kin." Every where and always it has been

found easier to believe than to think. To adopt a doctrine that has been promulgated by some distinguished teacher, or which is generally received by those among whom we live, is a very easy process; while to inquire, to investigate, and to ascertain by the exercise of our own faculties whether the doctrine is true, is to most minds a toilsome and irksome task. Even in this age and in this country, among the "freest, wisest, and happiest people on the planet," it might perhaps be found that many false doctrines in Medicine and other departments of philosophy, are received without challenge or question because they have been advanced by some popular authority; and that many true doctrines are entertained not because they are true, not because those who receive them have inquired and ascertained their truth, but merely because they are taught by persons who are considered to be of sufficient authority.

Freedom not truly valued.—Men have always talked, and never more than at present, of the importance and value of mental freedom and independence. But such talk is too commonly like the professions of zeal for civil or political liberty which are every where so loudly uttered, and which the sad lessons of history teach us are so apt to be forgotten just at the time when it is most necessary that they should be remembered and vindicated:—

“For what more oft in nations grown corrupt,
And by their vices brought to servitude,
Than to love bondage more than liberty,
Bondage with ease than strenuous liberty.”*

“Bondage with ease,” or without ease, is a calamity into which you may easily fall in your present business; *Noctes atque dies patet atri janua Ditis*. It is the fate which has befallen thousands of students in all ages, and which is none the less grievous and shameful on that account. It is the inglorious fate of every student, who from sloth, from indifference to truth, from regard to selfish interest, from undue respect for the judgment of others, from unwise deference to the crowd, or to the ancients, or to the moderns, or to any one else, or who from any other cause, is led to receive opinions and tenets, whether true or false, in relation to the subject which he professes to study, without having by honest research and investigation ascertained their correctness. Such a fate you should labour to escape. It can be escaped only by constant vigilance and strenuous exertions. But no vigilance, however anxious, and no exertions, however laborious and protracted, can be too high a price for the preservation of the mind from the thralldom of prejudice and error.

* *Samson Agonistes*, 263.

Love the Truth.—Let me urge you, in all your studies, in all your endeavours after knowledge and intellectual improvement, to deal honestly and fairly with your own minds. Keep them ever open to the truth. Avoid the extremes of arrogant self-sufficiency on the one side, and of timid and abject submission on the other. Reject falsehood and error, whoever may be their patrons and advocates. Let truth be the object of all your studies; and never fear to receive it with reverent love and honour, from whatever quarter it may come, and however neglected, decried, and assailed it may be by the shallow and ignorant, or even by the wise and good.

In connexion with the foregoing remarks, allow me, as verse is more impressive and more easily remembered than prose, to repeat to you the vigorous lines of an English poet, which indicate the spirit in which we should take counsel with books, or make use of any other methods of study:—

“Unaw'd by numbers, follow Reason's plan,
Assert the rights, or quit the name of man;
Consider well, weigh wisely right from wrong;
Resolve not rashly; once resolv'd be strong.
In spite of Dulness, and in spite of Wit,
If to thyself thou canst thyself acquit,
Stand steadfast, though alone, in conscious pride,
Rather than err with millions on thy side.”

Proper Hours for Reading.—Before I leave the

subject of Reading, it may be proper to refer to the period of the day in which this mode of study may be pursued with most advantage.

The decision of this question will depend somewhat upon the constitution and health of the student, the strength of his eyes, and the character and demands of his daily business.

As a general rule, the best time for application to books is the morning, when both body and mind have been recruited and refreshed by sleep, when the spirits are most elastic, and the brain most vigorous. Early rising is strenuously recommended by Aristotle, without consultation with Dr. Franklin, as a habit which contributes largely to health, wealth, and wisdom.*

Campbell declares that he could ascertain, by internal evidence, respecting any production of literature whether it was written before or after breakfast. This, however, was probably a *post-prandial* opinion of the poet.

Erasmus tells us, that he had learned by experience that more could be accomplished by study in one hour of the morning than in three hours of the afternoon.†

Gibbon's experience was probably similar: "The desire of prolonging my time," he says, "gradually

* *Economics*, B. 1, C. 6.

† *Expertus sum in studiis plus effici una hora matutina, quam in tribus pomeridianis ; idque nullo corporis detrimento. — Diluculum.*

confirmed the salutary habit of early rising, to which I have always adhered, with some regard to season and situation; but it is happy for my eyes and my health, that my temperate ardour has never been seduced to trespass on the hours of the night.*

Erasmus and Gibbon are entitled to speak with authority on any subject connected with study. Most students, however, pursue a different course, and do the greater part of their reading at night, when they are least liable to be called off by business, or interrupted by friends.

Milton's devotion to late hours is referred to in one of the most beautiful of his juvenile productions:—

——“ Let my lamp at midnight hour
Be seen in some high lonely tow'r,
Where I may oft out-watch the Bear
With thrice great Hermes, or unsphere
The spirit of Plato, to unfold
What worlds, or what vast regions hold
The immortal mind, that hath forsook
Her mansion in this fleshly nook.”

This passage furnishes a significant commentary on the subsequent blindness of its author. The cause of that calamity has been stated by another great poet in words which possess every excellence but that of literal truth:—

* *Life.*

“He pass’d the flaming bounds of space and time :
The living throne, the sapphire blaze,
Where angels tremble as they gaze,
He saw ; but, blasted with excess of light,
Clos’d his eyes in endless night.”

A more accurate and not less noble explanation has been given by Milton himself. Speaking of the loss of his eyes, he says :—

——— “What supports me, dost thou ask ?
The conscience, Friend, t’have lost them overplied
In liberty’s defence, my noble task,
Of which all Europe rings from side to side.”

Few students can expect so glorious a support under the sorrows of such a bereavement. They should therefore remember that the eyes and the general health are apt, especially after middle life, to suffer from protracted night study, which on this account, should, if possible, be avoided.

The necessary amount of sleep is different with different persons, and with the same person in different states of health, and at different periods of life. From the fourth to the third of the day, that is, from six to eight hours, is generally required. The best advice on this subject that I can suggest is, that the student, unless absolutely prevented by business, should retire to rest at an early hour, and arise as soon as he awakes, so as to make but one nap during the night.

His system will speedily become accustomed to this rule; and if he have a sufficiency of exercise in the open air, and take only a slight supper, or, what is far better, no supper at all, the single nap will soon be long enough, and not too long, for the purpose of repose. The influence of habit will, in a short time, enable you to follow this rule without difficulty; and by following it you may secure for the purposes of study several of the best hours of every day.

LECTURES.

The means for acquiring medical knowledge which we have next to consider, and which is employed in almost all schools of Medicine, is listening to Lectures on the various branches of the science.

The use of Lectures in teaching Medicine is of great antiquity, and was probably suggested by the absence, by the scarcity, or by the high price of books.

It has hence been contended that now when so many valuable treatises on every subject of science have been published, and are everywhere to be had, there is no longer any necessity for Lectures, except in the experimental branches, which demand a costly apparatus, and a practised and dexterous hand. There can be no occasion for them, it has been said, in other departments, unless for such pupils as have not attained that pitch of crudition which consists in the faculty of reading.

This opinion, however specious, is certainly not valid. It has been justly remarked by Gibbon, an illustrious authority, and one by no means partial to academic institutions, that, "There will always remain a material difference between a book and a Professor; the hour of lecture enforces attendance; attention is fixed by the presence, the voice, and the occasional question of the teacher; the most idle will carry something away; the more diligent will compare the instructions which they have heard in the school with the volumes which they peruse in their chamber."*

But the objection, even if well founded in certain cases, does not apply to the use of Lectures in Medical Schools, since in every department of medicine the teacher's discourses may be assisted, and commonly are assisted, by illustrations addressed to the eye; by chemical experiments, or by the display of dissections, of dry and wet anatomical and pathological preparations, of specimens, plates, figures and diagrams, which require to be explained, and which render the subject under discussion far more intelligible than it could be made in books.

* *Life*.—*Habeo hic quos legam non minus dissertos. Etiam: sed multo magis, ut vulgo dicitur, viva vox adficit. Nam licet acriora sint quæ legas, altius tamen in animo sedent quæ pronuntiatio, vultus, habitus, gestus etiam dicentis adfigit.*

PLINIUS, *Lib. 2, Ep. 3.*

What Branches?—In most of the Medical Schools of this country, no one is admitted to examination for the degree of Doctor of Medicine until he has attended two courses of Lectures, on each of the branches of science taught in the institution. When the pupil designs to attend more than two courses, a question arises as to how many, and what, branches he should study during the first session. It appears to me that it is best, in almost all cases, that he should attend to all the branches every winter that he spends in the school. It is best on two accounts. In the first place, the pupil when commencing his studies can rarely be certain that it will be in his power to attend a third course of Lectures. Various unforeseen circumstances may occur to render it desirable and important that he should graduate at the end of his second session; and this he cannot do unless he have studied all the branches both winters. Again, it is generally found that the student who attempts most does most, while he who attempts but little, does but little at the best, and often does nothing at all. I have frequently observed, that of two students of apparently equal capacity, the one who has attended lectures on all the branches, possessed, at the end of the session, a larger and more accurate acquaintance with all the subjects that were taught than the other with the only one or

two which he had undertaken to study. The one had been stimulated to exertion by the largeness of the task before him; the other had been kept inactive by the persuasion that the small amount of labour which he had laid off for himself could be done at any time, and might consequently be neglected.

Attendance.—It can scarcely be necessary to remind you of the duty of regular and punctual attendance on the Lectures. If it be worth your while to commence this attendance, it is equally so to continue and complete it. It is also worth your while to form, as early as possible, the excellent habit of attending faithfully to your proper business. There is scarcely any teacher in any respectable Medical School from whose lessons, if properly attended to, the youthful student may not derive useful information. “To impose upon any man,” says Adam Smith, “the necessity of teaching, year after year, any particular branch of science, seems to be the most effectual method of rendering him completely master of it himself. By being obliged to go every year over the same ground, if he be good for anything, he necessarily becomes, in a few years, well acquainted with every part of it; and if upon any particular point he should form too hasty an opinion one year, when he comes in the course of his lectures to re-consider the

same subject the year thereafter, he is very likely to correct it.”*

Attention.—In addition to proper attendance in the Lecture Rooms, the student, if at all adapted to the profession which he hopes to enter, can scarcely be forgetful of the duty enjoined by decorum and civility, of listening to the lecturer with respectful attention. Every teacher has a right to expect from his pupils the justice which the Roman patriot demands of his countrymen: “Hear me for my cause, and *be silent* that you may hear; censure me in your wisdom, and *awake your senses* that you may the better judge.” Strict attention is even more necessary in listening to a lecture than in reading. If the mind happen for a moment to be wandering from the book, you can easily recur to the passage and become acquainted with its meaning; but any part of a lecture that is lost, is generally lost irretrievably; *verbum scriptum manet, verbum dictum volat*.

Inquire of the Lecturer.—Yet in one respect the listener to a lecture has an advantage over the reader of a book. If the book fail to afford sufficient and satisfactory information, it cannot by any process be made more communicative. It is deaf and mute, and makes no reply to inquiries. On the contrary, if the

* *Wealth of Nations*, B. 5, C. 1.

student happen not fully to comprehend a part of the lecture, or if objections arise in his mind to anything that he hears, he can, after the discourse is ended, apply to the teacher for more complete information, or for explanation of difficulties. A few words in reply may set him right, may remove his doubts, and may save him a large amount of unnecessary labour. The student should not neglect to avail himself of such assistance on all proper occasions. "An unhappy man is he," says Lord Coke, "who knows not, and does not inquire—*qui nescit et non interrogat*; or who knows but little, and scorns to be taught—*qui pauca sapit, spernitque doceri*."

Notes.—With regard to the expediency and utility of taking written notes from the lectures, there has been some diversity of opinions. Upon the whole, it is probably best that this should not be attempted by the student during his first session. He is at that time, in most cases, too little acquainted with the subject to know what are the important points of the lecture which he should endeavour to preserve. During every subsequent session he should exert himself to take notes in all the departments, and to record everything of importance in the discourses which he hears.

This may by most persons be done after a little

practice without much difficulty. It is done, however, more easily by some than by others. Some persons use the pen far more rapidly and featly than others, especially those who possess this faculty by right of inheritance; for peculiarity of handwriting, whether good or bad, is, in many cases, as manifestly hereditary as cleverness, stupidity, beauty, insanity, drunkenness, gout, or consumption. But any one can with proper care acquire a hand-writing sufficient for the present purpose, as almost any one can read his own writing, though to others it may be as difficult and obscure as the manuscript on the wall of Belshazzar.

It is advisable, as a general thing, that the notes should be written in the common hand, moderately contracted. After a little experience, the student may gain the art of using a few *catch-words* in such a manner as to fix the doctrines of a lecture on his memory, at least so long as to enable him to write them out fully at night.

Reading.—Teaching by lectures is not intended to supersede the necessity of reading. It is designed to assist the pupil in his attempts to gain knowledge from books. After each lecture, the student, before he retires to rest, or early next morning, as soon as he rises, should consult the books which he is in the habit of reading, and observe how their statements and

doctrines harmonize with those which he heard in the lecture-room; and when there is a difference between them, he should reflect, inquire, and endeavour to ascertain which side is the more in accordance with truth. To read after every lecture of the day, before the lectures of the next day begin, is, I am perfectly aware, no easy task. It is a task which requires for its accomplishment a large store of patience and industry. But it is a task which some of the members of almost every class of medical students succeed in accomplishing, and which, therefore, may be accomplished by all.

Dissection.—The lectures on Anatomy and Surgery should always be illustrated by dissections; not barely those exhibited by the Professors of the two branches, but also those made by the pupil himself. It would be difficult to overrate the value of anatomical knowledge to every class of medical men, physicians as well as surgeons; and every one knows that this knowledge can never be acquired to any desirable degree of accuracy except by those who labour for it with the scalpel in their hand.

Examinations.—In connexion with lectures, and as adding materially to their utility, frequent examinations at stated and regular periods, are employed in this school and in many others, on the subjects of the oral lessons as they succeed each other in the progress

of the session. It has been objected to this measure, that in a large class it is impossible to call on all the pupils on every occasion of examination. This difficulty is, however, of no real importance, since it is easy, by judicious management, to keep each member of the class on the *qui vive*, by keeping him in doubt whether he himself will not be called on, and in this manner make him feel the necessity of constant preparation.

The beneficial influence of these examinations is evident and unquestionable. They serve as a thorough and exact review of the subjects which have been recently discussed. They afford opportunities for rectifying any errors or misapprehensions which may have occurred to the pupil while listening, or while neglecting to listen, to the lecture. And they also excite the student to increased exertion and diligence. The facts and doctrines of the lectures become naturally more interesting to him when he knows that his acquaintance with them will speedily be subjected to a public test. A spirit of emulation is then diffused through the class. Its members apply themselves with greater zeal and assiduity to the use of the various means of mental improvement; and, what is of especial moment as one of the most important ends of all rational education,—they are thus stimulated to exercise their minds in the great

and neglected duty for which minds were given them, the duty of thinking for themselves.

Caution.—Let me repeat to you respecting lectures the same caution that was suggested in relation to books. In listening to lectures you should be neither too easy nor too hard of faith. You should view your minds with respect, but at the same time with distrust. You should not believe without reason every thing that you hear; and you should not reject without reason the instructions of those who have gone before you in science, and whom you have chosen as your teachers. “The pupil,” says Bacon, “should believe; when he has been taught sufficiently, he should then exercise his own judgment: *oportet discentem credere; oportet jam edoctum iudicio suo uti.*”^{*} Yet it may be said, under correction, that the pupil, however young and inexperienced, should not suffer his opinions and judgment to be, in all cases, decided by the mere *authority* of his instructors.[†] But on the other hand, being young and inexperienced, he should be guarded against that petulance and folly

^{*} *De Augmentis Scientiarum, Lib. 1.*

[†] Obest plerumque iis qui discere volunt, auctoritas eorum qui se docere profitentur: desinunt enim suum iudicium adhibere; id habent ratum quod ab eo quem probant iudicatum vident.

CICERO, *De Nat. Deorum, Lib. 1—5.*

which under the guise of liberty of thought sometimes incline the young to reject without examination the doctrines inculcated by their teachers, and which may be the result of careful observation and of mature study and reflection.

LECTURE IV.

CLINICAL EXPERIENCE.

The student of Medicine requires the assistance of other means of instruction besides books and lectures, before his professional education can be completed. As an important and indispensable part of that education, he requires to be furnished with opportunities for personal observation and experience.

Medicine is in part a practical art, and in order to be learned, it must be seen in its practical applications. Lectures and books are useful means for preparing the student to observe with accuracy and advantage; but they are not sufficient by themselves to make him a physician. Before he can be qualified for the active duties of his profession, he must have opportunities for observation; and he must use those opportunities with attention and diligence.

It is on this account that a Hospital forms a necessary part of the apparatus of medical instruction; a part so necessary that without it no School of Medi-

cine can be even moderately well qualified to do justice to its pupils.

There are two conspicuous advantages which the student may expect, if he improve to the best of his ability the opportunity for acquiring knowledge which is presented to him in the wards of a hospital.

In the first place, there are many things in the natural history of diseases which you can learn much more easily and more perfectly by seeing them than by any other means. No verbal description, however accurate and faithful, of the eruptions of Typhus and Typhoid fever, of the agitated muscles of Delirium Tremens or Chorea, or the Fine Crepitation of Pneumonia, or the Bellows-Murmur of Endocarditis, can give you so correct an idea of those symptoms as you can obtain in a few moments from observing them as you stand by the bed-side. "True knowledge of things," says Julius Scaliger, "*cometh from things themselves—rerum ipsarum cognitio vera a rebus ipsis est.*" Consider how much more complete and exact is your impression of the size and appearance of a foreign animal or a new plant when you have examined it with your own senses, than when you have depended upon the most elaborate description given by the ablest zoologists or botanists. When you have seen the Giraffe, or the Victoria Lily, you

have an infinitely better conception of the figure and colour of the beast, or of the flower, than could be given you by all the perspicuity and eloquence of Buffon or Cuvier, or of De Candolle or Linnæus. The same thing is true in relation to diseases. If you desire to understand them so as readily to detect their existence, and distinguish their character, you must not depend exclusively upon the accounts given by others. You must see them for yourselves. You must live with them in habits of constant and familiar intercourse. You must spend your days and nights, your months and years, in their melancholy but edifying society. It is thus, and thus only, that you can become thoroughly acquainted with their phenomena, and learn to interpret the language of their symptoms.

By frequenting the wards of a Hospital, you may obtain all the benefits of experience, without encountering the anxiety, pain, and sorrow which usually imbitter that acquisition. You may there study the varying and complicated symptoms of disease, and observe the effects of remedial means, and exercise your judgment respecting the treatment employed, and compare what you have heard in the lecture-room, or read in your closets, with what you find written in the book of nature.

In that great volume the lessons which you read are infallibly true, and as fixed and unalterable as the records on the written mountains of Arabia. What you hear from lectures, or read in books, may be correct, or may be erroneous. What you see in the Hospital is certain and unquestionable. The hurried pulse, the labouring respiration, the wasted limbs, the hectic cough, are no figments of the imagination, but sad realities. And the treatment also which you see employed is a reality; and by observing its effects you may be encouraged to imitate in your future business what you have known to be useful, or,—what is often an equally profitable lesson—to avoid what you have seen productive of evil.

The other advantage which you may expect to gain from observations in a Hospital depends on the fact that knowledge obtained in this manner is always remembered better and longer than that acquired from books, or from lectures. Most of us, I believe, remember better what we have seen than what we have heard. The eyes appear—if I may be allowed the expression—to have a far more retentive memory than the ears. It is observed by Horace—and it had doubtless been observed long before the time of Horace—that the mind is less affected by the ideas which enter it through the ears than by those which are

submitted to the faithful eye, and in that manner impressed upon the understanding.*

If, then, you can learn many things connected with medical science more easily and more accurately in a Hospital than anywhere else, and if what you there learn is more permanently fixed in your memory than the information acquired in any other manner, the high value of clinical study must be sufficiently obvious.

Observation not sufficient.—Yet you should not attach exclusive importance to personal observation, or underrate the utility of other modes of acquiring knowledge. Without the use of books and lectures, opportunities for observation, however ample, must be in a great measure useless. The Student cannot observe properly without assistance from others. He must be taught what to observe, and how to observe. He must know what has been done by those who have gone before him. He must be in possession, at least in some degree, of the facts and principles which have been recorded and established by the labourers who have preceded him in the fields of Science.

Books and lectures are, however, only introductory to that indispensable knowledge which is to be

* *Segnius irritant animos, &c.—Ep. ad Pisones, 180.*

gained by other means. They are useful only so far as they prepare and enable you to observe and to think for yourselves. If it be unsafe for the Student to depend exclusively upon his own experience, it is equally so to trust to books alone, the recorded experience of others. Confined to the study of books, he may, perhaps, acquire the faculty of discoursing fluently and learnedly respecting diseases; he may learn, like Naphtali to give goodly words, or, like Zebulon, to handle the pen of the writer; he may become a profound Medical Scholar; he may gain a wide and accurate acquaintance with what has been said and done by others; but he will not be a physician. When he comes to the treatment of diseases, the great end and object of all our professional studies, his practice will, inevitably, be uncertain and vacillating, in some cases feeble and nugatory in others rash and perilous.

On the other hand, if he confide in his own unaided powers of observation, he will be impeded at every step by difficulties, which an acquaintance with the experience of others would have prevented. Not prepared by proper training to understand what he sees, he will derive little or no advantage from observation. He will be like the professional nurses who spend their whole lives in seeing diseases, but learn nothing from their opportunities, and die at

length as destitute of all medical knowledge at the end as they were at the commencement of their career.

Reading or Observation?—It is difficult to decide which of the two is the more in error, he who in the pursuit of medical knowledge trusts to reading alone, or he who blindly confides in what he calls his own experience. Of the two, the mere *book-doctor* is in general the more respectable man, and the more likely to improve. But both are unfit for their profession, and no prudent patient would desire to see either of them. He might justly fear that the one would despatch him according to the approved method of some venerable folio; and that the other would accomplish the same consummation by some admirable new plan of his own devising with which he had killed all his other patients who appeared to be labouring under nearly the same disease.

The physician Dooban, we are told in the *Arabian Nights*, had read books innumerable; books both Greek and Persian; books from Constantinople, from Arabia, and from Syria; books on the Science of Medicine and on Astrology. He had studied the whole power of remedies, and the rules of practice, and the means of healing and of hurting. He understood the nature of all plants, and shrubs, and herbs, and their power of hurting and healing. And

he understood philosophy, and had gone through the whole range of the Science of Medicine, and all the Sciences connected with it.* He is represented, in short, to have been an exceedingly accomplished Medical Scholar. Whether he had been much engaged in the practice of his art, or had enjoyed opportunities for seeing and treating diseases, we are not informed. If he had not, we may pronounce, very certainly, that the physician Dooban, notwithstanding his ample and multifarious learning, must necessarily have been capitally deficient in professional skill, and far more apt to injure than to benefit his patients.

But look upon another and a different picture. Our countryman, Samuel Thomson, the redoubtable author of the Thomsonian System of Medicine, had read nothing at all, and for the sufficient reason that, like William of Deloraine, "letter or line knew he, never a one." He was in fact wholly unacquainted with the alphabet, an infirmity which is still extremely prevalent among his successors and their patients. But although the art of reading had been omitted in the general plan of his education, he had been favoured, as he reports, with abundant medical experience, and had learned by his

* *Fourth Night: Calcutta Translation.*

own unaided observations, that all diseases depend on *canker*, and may be cured either with decoction of Lobelia or infusion of Red Pepper. Such, with this philosopher, were the results of large experience and long observation. *Expende Annibalem*. Had he acquired any real medical knowledge? Or was he better qualified for the treatment of diseases with his experience and observation, than Dr. Dooban with his books and his learning, his philosophy and his astrology? It is no sin against charity to suspect that the patients of each of these illustrious opposites may often have had cause to regret the imperfect training of their medical attendant. They would probably in most cases have been far safer in the hands of nature than in those of either the learned or the illiterate practitioner.

In order to become physicians, you must read diligently, and you must also have opportunities for observation. You must spend much time among books, and much also among the sick. "The human body," to use the words of a wise and impressive writer, "must be your study and your continual care—your active, willing, earnest care. Nothing must make you shrink from it. In its weakness and infirmities, in the dishonours of its corruption, you must still value it, still stay by it, to mark its hunger and thirst, its sleeping and waking, its heat

and its cold, to hear its complaints, to register its groans."*

An essential part of your professional education must be acquired at the bedside, by observing, by inquiring, and by reflecting. But remember, that in order to observe correctly, to inquire judiciously, and to think to advantage, you will need assistance before you approach the bedside, and assistance while you are standing by it. To observe usefully, it is not the mere eye that is required, but the eye that has been taught and trained to see with intelligence and discernment.

The instruction imparted in a hospital should be as much as possible strictly *clinical*; given, that is, in the presence of the patient, and with direct and constant reference to the peculiarities of his case, to the treatment employed, and to the effects produced.

Examination of Patients.—One of the first difficulties encountered by the student of Clinical Medicine is in relation to the proper mode of examining patients for the purpose of ascertaining the nature and character of their diseases.

He goes to the bedside of a person who is suffering from some malady more or less severe. He knows that before he can form even a plausible con-

* *Dr. P. M. Latham, Clinical Lectures.*

jecture respecting the requisite treatment of the case, it is necessary that he should be acquainted with its nature; that he should understand what organs are affected, and how they are affected. He knows also that this can be accomplished only by a careful examination of the case. But how is this examination to be made?

It may be made skilfully or awkwardly, judiciously or injudiciously, thoroughly or imperfectly, profitably or to no purpose, according to the training, experience, and ability of him who makes it.

It is of the utmost importance that it be done well; and the student of Medicine should therefore endeavour to acquire the art of doing it in the best possible manner. He should endeavour to acquire the art of examining patients in the manner best calculated to afford him all the information that can be obtained in relation to the Diagnosis, Prognosis, and proper Treatment of their diseases. And he should be guided in his attempts, partly by the rules which he finds in the books; partly by the exercise of his own good sense and reflection; and partly by carefully observing the course pursued by his clinical instructor.

The members of the Bar make the art of examining witnesses a branch or department of their regular

professional studies. This cannot be more important to them than the art of examining patients is to us.

This necessary and essential part of a physician's education is acquired far more easily by some than by others. But any one of ordinary capacity who will take pains can learn to observe well and to examine well. The inexperienced student is generally puzzled in making his first attempts. He can detect but little in the phenomena of his cases, in their signs and symptoms, to guide him to a knowledge of their true nature. But let him persevere. Let him bestow the necessary time, patience, and attention, and he will find his difficulties gradually diminishing. He will begin to observe many things that had previously escaped his attention, and to understand the meaning and significance of much that had before been dark and unintelligible. *Nemo nascitur artifex*. No one ever commenced as a good observer, or good examiner; and no one has ever become such, or ever will become such, except by bestowing care and labour.

Examine for Yourself.—You will find it a highly useful exercise to examine cases in the Hospital in the absence of the physicians, and respecting which you have heard no opinion expressed, and to endeavour from your own observations and reflections to make out their true diagnosis, or in other words, to discover

their true pathological character. You should subsequently compare your conclusions with those of your clinical teacher when he comes to the case; and if there be a difference between your opinions and his, you should observe by what knowledge, or by what carelessness, or by what mode of examination, he has been led to a different judgment from the one which you had formed. By means of such discipline you will compel yourselves to observe and to think, and you will be brought gradually to a knowledge of your strength and of your deficiencies.

By this mode of studying cases, you will be exercising and training your perceptive faculties and your judgment in the labour and duty to which they should be devoted as long as you continue engaged in the business of treating diseases. To study in this manner will doubtless cost you some efforts; but your efforts, if fairly made, will be fully rewarded. And—

———“Non levia aut ludicra petuntur
Præmia.”*

What efforts should the young, ambitious, and aspiring consider too great, when the reward is distinction and eminence in life? What efforts should the humane and benevolent consider too arduous, when the reward is the power to do good to men, to

* *Æneid*, 12, 764.

relieve the wretched in their utmost extremity, and to avert or mitigate some of the worst evils of human existence?

Conduct of the Understanding.—The young physician, or the young student who is preparing himself to become a physician, cannot form too early the habit of examining patients deliberately and accurately. He should in all cases examine carefully, as knowing how often diseases are complicated and obscure; as knowing his own liability to errors and mistakes; as knowing the responsibility of his office; as knowing the value of human life. He should feel that it is a petty, mean, and wicked vanity which endangers the life of the patient in order that the physician may appear to possess a quick eye, and to see everything at a glance, and to understand cases by intuition. If he cannot afford time and patience to examine and to think maturely, he should renounce the profession of medicine, and seek out some walk in life in which he may succeed without labour, and be careless and negligent without incurring the guilt of homicide.

In making observations you should use your understanding with caution and discretion. Avoid negligence, and equally avoid prejudice. Endeavour to see in the case which you are examining all that the case contains, and nothing that it does not contain. This is exceedingly important, and as difficult as it

is important. Few are the observers of medical facts or of any other facts, who can see those facts as they really are, and without colouring and modifying them from their own minds. You should also be constantly on your guard against drawing general conclusions from an insufficient number of facts, and thus erecting the superstructure of your opinions upon a foundation too feeble and narrow to support them.

Auscultation.—It is by observation and study in a Hospital that you will most easily and most speedily acquire the important and invaluable art of examining diseases of the Respiratory and Sanguiferous Organs by means of the ear. Explanation of cases at the bed-side, by a competent instructor, will give you in a single winter more knowledge of Medical Auscultation than you could gain by many years of unaided exertion in private practice, or by a whole lifetime devoted to the perusal of even the best books on the subject. This essential part of a physician's education is rarely possessed except by those who have laboured for it in a Hospital. The difficulty of acquiring it in this manner is not very great; yet it is certainly much easier to deny the value and utility of Auscultation, and thus save yourselves the toil of learning it. And as the avoiding of unnecessary and useless toil is always desirable, I should earnestly recommend this course, but for two considerations.

The first of these is, that if unacquainted with the art of Auscultation you will be consequently in a very great degree unprepared to take charge of the treatment of many of the most common and most perilous maladies to which the human body is liable; and the second, that if you look through the medical profession, and observe who are the physicians that have laboured to learn this method of examination, and have constantly practised it, and strongly insisted on its importance, and who, on the contrary, are they that have rejected it as a useless mummerly, or, according to their own classic phraseology, as a mere *humbug*, you will perceive at once that on any question of science there will always be some degree of danger in differing from the former of these classes, and some degree of shame and disgrace in siding with the latter.

Rare Cases.—Students often fall into the error of attending in Hospitals only to the unusual and extraordinary cases, while they neglect those which are of more common occurrence. They make themselves familiar with all the details of a case of Lithotomy, but remain unprepared to treat a fracture of the leg or arm; they gaze with deep interest upon a case of Elephantiasis or Hydrophobia, but turn away with indifference from one of Catarrh or Intermittent Fever. This is extremely injudicious. They should

reflect that very few of their number will have any thing to do with what are called the *capital* operations of Surgery, while their skill in the treatment of slighter cases, will probably be frequently tested. Unusual medical cases are also of course not those which they will often be called on to treat, while it is in the management of ordinary cases that they will every day have occasion to manifest their knowledge or their ignorance.

Notes.—There can be no doubt respecting the utility of taking written notes, as fully as practicable, of the cases which you see in the wards of a hospital. This can be done to a very useful extent without much difficulty; but it requires regular and persevering attention. The hospital of this school—and I suppose the same thing is true of other similar institutions—is always open to the pupil who desires to enter it for the purpose of observation and study. He can see the cases in the afternoon in company with the Clinical Clerk; and in addition to the information afforded by the attending physician during his regular visits, aid can be derived from the clerk and from the case-book of the house. Half an hour a day judiciously employed, with pencil and paper in your hands, will be sufficient to enable you to ascertain and record the condition of a large number of patients, and the changes which have occurred in their cases since the last preceding visit.

Humanity.—This part of your study will bring you into frequent and close intercourse with the sick. The duty of gentleness and kindness will readily occur to you. The slightest hint on this subject will, I trust, be sufficient to keep you mindful of the feelings which should be suggested by the contemplation of distress and misery, whatever the social position of the sufferers:

“Aude, hospes, contemnere opes, et te quoque dignum
Finge Deo, rebusque veni non asper egenis.”*

No rule so good and infallible to guide you in this respect, whether in hospitals or in your future private practice, as the precepts and example of the Divine Teacher,

“To whose immortal eyes
The sufferings of mortality,
Seen in their sad reality,
Were not as things that gods despise.”

Let us learn humanity from Him who has felt all the miseries of human life except its sins and corruptions, and who has imparted something of a sacred dignity to our calling by making it his own business while on earth “to heal all manner of sickness and all manner of disease among the people.”

You all remember, I hope, the story which every

* Æneid, 8-364.

one has heard of the physician who said in Latin to his colleague in a hospital, "Let the experiment be tried on this vile body," in reference to a poor man who was under their care; "The body is not so vile," said the patient, who happened to understand Latin, "for which Christ himself has not disdained to die."* If at all adapted to the duties of your profession, you will readily learn to disregard, in some respects, the artificial distinctions of rank and fortune; you will be able to view the poorest and humblest as your fellow creatures; and to feel that the noblest attribute of the true physician is prompt, earnest and cordial sympathy with the sufferings of humanity.

Results.—How much you will be profited by your opportunities for observation will in a great measure depend upon yourselves. Clinical study is said to be more neglected than any of the other methods of acquiring knowledge that are recommended to students. Dr. Latham, the distinguished physician of St. Bartholomew Hospital, asserts, that five out of six who profess to attend the medical practice of that institution never watched a single

* "*Fiat experimentum in corpore vili. Corpus non tam vile est pro quo Christus ipse non dedignatus est mori.*" This repartee has been often quoted. I venture to repeat it, because it embodies a sentiment which can never be too deeply impressed upon the minds of all who are engaged in the study or practice of Medicine.

case of disease through its entire course during the whole of their pupilage. "I say this," he adds, "with great sorrow, and as a warning to those whose pupilage is yet to begin."*

In every class that I have known, there have been some who have laboured diligently to turn their opportunities for clinical experience to the best account, and who have succeeded, and have been abundantly rewarded. There have also every year been others who have visited the hospital to no purpose, who have observed nothing, and learned nothing. Such students find it difficult to force their way through the crowd and approach the beds of the patients; difficult to examine and understand the cases; difficult to endure the sad and disgusting appearance of the sick; and they have judged it easier and wiser to complain of such difficulties than to exert themselves to conquer and surmount them. Such students—I hope they form but a small proportion of your number—should consider what ex-

*"It is a well known fact, that but very few pupils, comparatively speaking, avail themselves of the advantages to be derived from hospital instruction; and the number in actual attendance at the hours of visit, is surprisingly small. We are credibly informed, that, in New York and Philadelphia, not more than one in ten attend regularly at the hospitals.—"*Transactions of the American Medical Association, vol. 2. Report of Committee on Medical Education.*

ertions they would be willing to make in quest of sport, diversion and pleasure. They should remember what others have done in the noble pursuit of knowledge. And they may be assured, that if they have chosen the profession of Medicine as a business in which success may be attained without the exercise of resolution, patience, and physical and mental energy, they have made from among all the various occupations of life the very worst possible selection.

CONVERSATION.

In addition to the means of acquiring knowledge which we have been considering—books, lectures, and clinical observation—the student of Medicine may derive great advantage from frequent conversation on the subject of his studies, with intelligent and industrious associates who are engaged in the same pursuit, reading the same books, or books on the same branches of science, hearing the same lectures, and observing the same cases in the hospital.

Such conversation is useful in various ways. It keeps the student's mind more constantly applied than it would otherwise be, and with less fatigue, to the subject which he is investigating. Again, the doubts, difficulties, and misapprehensions which have occurred to one, may be corrected or removed by the fuller and more accurate knowledge of

another. Again, in talking over a subject and explaining our views to others, we are often enabled, from the increased activity to which the mind is excited, to understand it ourselves better than we had previously done; we increase our knowledge by our efforts to impart knowledge to others; *discit qui docet*. And again, we generally remember well what we have learned or taught in this manner. If we have been learning, we are struck, perhaps, by the manner, voice, or some other peculiarity of the friend to whom we are listening; if we have been teaching, we have been compelled to think more earnestly and fully on the subject which we were discussing; and in either case, the memory is more permanently impressed.

"It is truly astonishing," says the enthusiastic Flemish scholar Ringelbergius, "how much clearer and more forcible our ideas upon any subject are, in the presence and with the assistance of a second person; so much so indeed that if you read in company with any one who is competent to give his opinion upon the subject under consideration, all difficulties at once unravel themselves, and you are enabled plainly to perceive what, had you been alone, you might have puzzled over in a state of drowsy stupidity till you had either imagined the stumbling-block too great for you to pass over, or

thrown your book down in a fit of desperation and disgust.”*

The habit of conversation gives one a command of the knowledge which he possesses, and a power to use it whenever it is required, that are scarcely attainable by any other means. “Conference,” says Bacon, “maketh a ready man, reading a full man, and writing an exact man.” Persons of the most extensive information who have had but little practice in conversation, are apt to find themselves in a situation like that of Addison, who used to say of himself in respect to intellectual wealth, that he often had not a guinea in his pocket, though he could draw bills for a thousand pounds.

In connexion with conversation on the subject of your studies, there are certain dangers which you should endeavour to avoid.

In the first place, you should not suffer such conversation to occupy too much of your time, to the prejudice and hinderance of other modes of gaining knowledge. You will never become proficient in professional science if you depend exclusively upon oral discussions with even the most learned and able medical scholars.

You should also be discreet in selecting the asso-

* *De Ratione Studi.*

ciates with whom you converse. Even in our enlightened 19th Century, there are still some persons to be found whose conversation, whether on Medicine or any other subject, would afford you but little edification. There are some to whom rational conversation is like the musical pipe to Guildenstern: "Will you play upon this pipe?" says Hamlet; "'Tis as easy as lying; govern these ventages with your fingers and thumb, give it breath with your mouth, and it will discourse most eloquent music. Look you, these are the stops." "But these," says Guildenstern, "cannot I command to any utterance of harmony; I have not the skill." Unfortunately, in relation to conversation, many persons have not the skill to know their want of skill. They know nothing, but are ignorant of their ignorance; and, like that uncomfortable comforter, Eliphaz the Temanite, they "cannot withhold themselves from speaking." They "draw out the thread of their verbosity finer than the staple of their argument," and consume hours without number, and an infinity of words, to explain, expound, and illustrate their nothing of sense and meaning. If you spend much time with such associates, you will be likely to make but small progress in Medical Science.

It is difficult for a student to reflect without some degree of indignation on the loss of time which he

has sustained at the hands of idle, ignorant, and garrulous intruders. *Hei mihi quod vicinus meus est Mesech, et quod habito tanquam inter tentoria Kedari.* This evil has been always duly enumerated among the calamities incident to the learned. Horace has recorded it in half laughing lamentations; Aldus Manutius endeavoured to defend himself against it by the stern and churlish placard which he set up in his library; and the pious and venerable Richard Baxter was accused of having threatened *to pistol* a man who was in the habit of interrupting his studies. The feelings evinced in regard to this annoyance have been perhaps a little too splenetic; but they are not wholly without excuse. It is certainly not calculated to improve amiability to be called off from the delightful studies of literature or science,

“From the loved volumes where the souls,
Of the great dead walk gloriously,”

and forced to listen, with sad civility, to silly comments on the latest political or military news detailed by “our own” lying and blundering “correspondent;” to hear the idle gossip of the day, to attend to philosophic remarks on the weather, or ethical discourses on the faults and failings of absent friends, or—if the company be somewhat more erudite and

refined—to be entertained with literary disquisitions, not on

“The gentle lady married to the Moor,
Or heavenly Una with her milkwhite lamb,”

but rather on the merits of some happy effusion of the Milford Bard, or of some new and delightful romance that has lately irradiated the columns of the New York Ledger.

From such inflictions, good taste, good sense, good morals, and a just consideration of the brevity of life and the boundless extent of art, should inspire you with resolution to protect yourselves by all proper means, short of the revolver and the bowie knife. You can scarcely be too zealous; for there are but few things more precious than time, nothing more unprofitable than the talk of fools, and no other talk more odious and intolerable, except that of the profane and licentious.

It is related in the oriental myth, that the immortal Baly, who was once the ruler of the world, when deprived by the superior deities of the enormous power which he had greatly misused, was permitted, in consideration of the many good and noble qualities which belonged to his character, to have his choice, whether he would go to heaven and take five ignorant men with him who were there to be his everlasting companions, or to hell and have five

pundits or wise men constantly in his company. It was a dire dilemma; but Baly, who knew the value of good company, selected the latter alternative, and went to the place of torment with philosophic disregard of bad quarters and personal discomforts, and with full confidence that the wisdom and wit of his accomplished attendants would afford him even more than that measure of consolation which the great poet tells us is derived from the strains of angelic music which ever and anon resound in those doleful regions, and which

“Want not power to mitigate and swage
With solemn touches, troubled thought, and chase
Anguish and doubt and fear, and sorrow and pain,
From mortal or immortal minds ”——*

His choice was, no doubt, rash and unwise. Yet let us not judge him too severely; for even at present, and after the six thousand years—or the six hundred thousand as the geologists have lately ascertained—in which the human race has been so constantly and rapidly improving, you may still easily meet with persons of such power of conversation that you will be almost persuaded that had Baly been condemned to eternal communion with them, his lot, even in heaven, would have been very deplorable.

* *Paradise Lost* 1--556.

LECTURE V.

MEDICAL SCHOOLS.

WE have been considering in the foregoing discourses the means employed by students of Medicine for the purpose of acquiring professional knowledge. For assistance to enable them to use these means to the best advantage, students look, in part, to the Medical Schools. The duty of those schools *to their pupils* is to give them such aid as will best prepare them for the business of their profession. The duty of those schools *to the community* is to see that with their sanction none of their pupils enter that profession until prepared with an adequate measure of knowledge, skill, and other requisites for the pursuit in which they seek to be engaged.

How have these two important duties been performed by the Medical Schools of this country?

This is a question directly connected with the subject of the preceding lectures; and it is to this question that I desire to call your attention on the present occasion.

The subject of Medical education has excited of

late—as most of you must be aware—much inquiry and investigation both within and without the pale of our profession. On a subject so intricate, and involving such extensive, various, and complex considerations, there has been expressed, as might have been expected, a great variety of sentiments. And, as the controversy is one in which it is easy for the passions to enlist themselves—one in which there is a ready appeal to the selfish feelings of ambition, pride, vanity, and avarice—it is by no means surprising that its discussion has not always been conducted with the philosophic calmness of judgment which both its difficulty and its importance would seem to require.

In referring to the conflicting opinions which have been advanced on this subject, I shall omit as unnecessary, useless, and odious, all discussions of the motives of those who have impugned, or of those who have defended the present system of medical education. Whether the whole controversy has arisen—as has often been asserted—from hostility between the *Ins* and the *Outs*—between those who hold offices in the Medical Schools, and those who wish to hold them—is wholly unimportant. If the opinions mentioned on either side be correct, they cannot be made better, or made worse by reference to the motives or aspirations of those who advance them. The vali-

dity of those opinions is to be proved by the logic and not by the ethics of their advocates; and we should remember that, according to Bacon's happy illustration, testimony is like an arrow from a long bow, the force of which depends on the strength of the hand that draws it, while argument, on the contrary, resembles an arrow from a cross-bow, which has equal force whether shot by a giant or an infant.

Leaving then out of the question the angry feelings, the *pus atque venenum*, which have been too generally introduced into this discussion, and pretermittting all allusions to the good or bad faith, and the good or bad intentions of either the reformers or the conservatives, let us direct our thoughts to matters of more interest, and which are more justly connected with the important subject under consideration.

The questions at issue are, whether the system of Medical Education in this country stands in need of reform; and if so, what reform is required, and how it is to be accomplished.

In relation to this inquiry, I shall proceed to submit to your judgment, as briefly as I can, the opinions which I entertain, and which, whatever their value, have been formed deliberately, and will be stated with the candour of one whose mind is neither biassed by prejudice nor agitated by passion; "*Sine ira vel studio quorum causas procul habeo.*"

American and European Teaching.—Many, perhaps most, of those who have taken part in the controversy respecting the Medical Schools of the United States, whether as defenders or as opponents of those schools, have thought it proper to commence the discussion by referring to the difference between the system of education employed in this country and that which prevails among most of the nations of Europe. The comparison thus instituted has led the judgment or the feelings of different spectators to different and opposite conclusions.

Some have pronounced that our system is in several important respects greatly inferior to that of Europe. They contend that it exacts too little of preliminary education before the study of medicine is commenced; that the time which it requires to be devoted to that study is too short,—from one to two years shorter than the period prescribed in Europe; that our curriculum of studies omits many important subjects which are taught in the European schools; that clinical teaching is in all of our colleges too little attended to, and in many of them wholly neglected; that our collegiate sessions are not long enough; that the instructions given during the sessions are consequently hurried, superficial, and imperfect; that the examination of our candidates for degrees is not suf-

ficiently exact and thorough; and that the general result of our system is the turning out from our schools every year of a mixed multitude of fifteen or sixteen hundred graduates, but half educated, and but half prepared for the duties of a profession in which to be but half prepared is often as bad as to be not prepared at all.

Widely different is the judgment expressed by others. They proclaim that the education given in the schools of this country is vastly superior to that afforded in the European schools. It is less elaborate, they say, and less ornamental, but more practical, and better adapted to qualify its pupils for future usefulness. They maintain that, although our graduates may have learned in the schools nothing of Botany, Zoology, Mineralogy, and various other branches of science remotely allied to medicine, and which constitute a part of the course of study in many of the Medical Schools of Europe, they are yet in general well instructed in subjects more directly connected with their profession; and that they have acquired the useful and necessary part of their education the more speedily and thoroughly in consequence of their attention having not been distracted by application to studies of less practical value.

These admirers of our institutions pronounce that

the superiority of the American to the European schools of medicine is conclusively demonstrated by the best of all proofs—the unquestionable superiority of the physicians of America to those of Europe. A learned Professor in one of the Northern States* has announced as a truth undeniable, that “the physicians of this country greatly surpass (those of) all other nations, not only in the decision, but in the success of their practice.” An equally eminent authority in the West has published as his opinion, “that American physicians hold, in general, a practical superiority over those of Europe;” and also, as he cautiously ventures to infer, “over (those of) every other portion of the globe.” A third distinguished teacher, who had seen many wonderful things in Europe, assures us that he has often beheld with astonishment in the Hospitals of the Continent cases of disease terminate fatally under the care of the most renowned physicians, which the youngest and least experienced practitioners in the United States, mere babes and sucklings in American medicine, would have cured with ease and certainty.

Now, these comparisons are certainly not at all odious, and have no doubt been made with great accuracy and perfect impartiality. Yet, as it is impos-

* Che il gran comento feo.—DANTE, *Inferno*, 4, 141.

sible for all men to think alike, and as diversity of judgment is of constant occurrence in relation to even the simplest and plainest matters of fact, so in the present case there is as yet no absolute unity of opinion. Some of our physicians who have had the best opportunity for personal observation of the qualifications and abilities of their transatlantic brethren acknowledge—probably from want of a proper degree of patriotic sentiment—that they have been forced to a conclusion less gratifying to national vanity, and assure us that if there are many among our very young practitioners who in professional skill surpass Louis, Watson, Latham, and all the other luminaries of European science, they have not enjoyed the happiness of meeting with those instances of precocious excellence. This extraordinary deficiency in their experience it would be difficult to explain, unless we ascribe it to a failure of their perceptive faculties, akin to that recorded of himself by honest Bernal Diaz, the Spanish warrior and historian, who tells us “that although many of his fellow-soldiers saw San Jago, and San Pedro fighting on their side in the forefront of the battle against the Tabascans, to himself, sinner that he was, it was not permitted to behold either of those blessed Apostles on that occasion.”

The difference between the systems of instruction

prevalent in the American and European schools of medicine, whatever its effects upon the character and attainments of the pupils of those schools, has evidently arisen, in part from the difference between the political and social condition of this country, and that of all the rest of the world.

The education of our physicians is in some respects inferior, in others fully equal, to that of the members of our profession in Europe. In this country the purely practical part of Medical Science, as of all science, is carefully taught and well understood. Attention is also paid to so much of speculative research as is directly useful or necessary for application. But, in general, less time and labour are devoted to the essentially abstract doctrines of the science. We have been, for the most part, content to make application of the laws and principles discovered by others. In discovering and investigating those laws, we have manifested less interest. Democratic institutions, and the habits of mind which they induce, naturally hurry men into the pursuits of active life. They disincline us from the study of science for the sake of truth alone. They lead us to seek, not the hidden philosophy, but the immediate and practical results of the sciences. The people who live under such institutions enjoy the privilege of selecting with perfect freedom whatever pursuit they may think the best for

the improvement of their fortunes; and they naturally resort to the use of those means which they believe will be most effectual for the speedy accomplishment of that object. They find the skilful application of the rules of art more profitable than the patient investigation of the mysteries of science; and they therefore cultivate art and neglect science. The general mediocrity of their fortunes, their desire for competence, and the constant efforts to which they are tempted by the opportunities they enjoy for attaining it, will always tend to make a democratic people view with comparative neglect all studies and inquiries but those which are judged of direct and immediate practical utility.

Another circumstance that has helped to occasion the difference between the system of medical education in America and that in Europe, is the interference of the civil government in many of the European States to control and regulate the medical schools. In this country, the government extending in general little or no patronage to the schools, forbears to exercise any authority over them. It knows nothing of the qualifications which are required of the pupils who wish to be received, or of those who wish to graduate. It prescribes, in most cases, nothing respecting the length of the sessions, or the amount and character of the instructions to be communicated. It as-

sumes, in short, that the schools are competent to regulate themselves, and the community qualified to judge of their claims to respect and confidence.

The two circumstances which have been referred to—the peculiarities imposed upon our people by their democratic institutions, and the forbearance of the government from interfering with the schools of professional instruction—if they affect the character of our medical education, as I believe them to do, ought evidently to produce similar and equal effects upon the education of those who are preparing themselves for the other professions. And such undoubtedly is the case. The students of Law and of Theology throughout our country are affected by these causes in the same manner, and probably in the same degree, as the students of medicine. They also are, in general, perhaps, less fully prepared by literary education for the study of their respective professions than might be desired. They also employ less time in professional study than is customary in Europe.—They also are in the habit of precipitating themselves with more haste than good speed into the active pursuits of their business.

Nor is this error or this evil peculiar to the schools of professional instruction. It is common in a greater or less degree, to every part and every division of the system of education employed in our country.

The traces of haste and of consequent imperfection, are but too visible in all of them. Errors and deficiencies are not at all more conspicuous in the schools of Medicine, Jurisprudence and Divinity, than in the literary institutions of the land,—in our academies and colleges of arts and letters. In these, as well as in the professional schools, the plan of instruction, though in many respects valuable and excellent, is certainly very different from that which prevails in the great seminaries of Europe. It exacts less of time and labour; it is less thorough and complete; it communicates less of a certain kind of excellence; but such as it is, it has been modified and moulded by the character and natural action of our social and political peculiarities; and thus far it has been found to supply, in a considerable degree, the wants and necessities of our people.

The general character of education in all its forms in this country, and of schools in all their varieties, appears to have been overlooked by many of the members of our profession who have been most active in urging the necessity of reform in our system of medical instruction. They seem to consider the deficiencies which are in reality common to all of our institutions of education as peculiar to our medical schools alone, and to believe that no ill educated and illiterate youths can be found in the United States except

among the students of medicine, and that the only persons who are imperfectly prepared for their business in life are our young physicians. This opinion does the students and young practitioners of medicine honour over much. The uncharitable spirit of those who entertain it, like the charity of some others, is of too domestic a variety ; it is too exclusively devoted to the members of their own profession. These censors might be led to a juster and more favourable estimate of the qualifications and merits of their youthful brethren by inquiring somewhat into the learning and abilities of the students of Law and of Theology, and of our young lawyers and divines. Among the rising "lights of the church and guardians of the laws" there are many, no doubt, who are well prepared for their business in life, and every way entitled to respect and esteem. But mixed with these there are also some of a different stamp; some whose education and acquirements have not exactly fitted them for the ranks of a learned profession; some who are distinguished by but little of that amenity of manners and temper which spring from and which indicate, the faithful culture of ingenuous arts; some who profess themselves *practical men*, and hate and despise all learning and all liberal studies as among the impediments to success; some who may justly and confidently boast that—

“ Their souls proud science never taught to stray
Far as the solar walk or milky way ; ”

some who have had but small converse with the masters of ancient or modern literature, with the height and depth of philosophy, with the elegance or grandeur of poetry ; some in short, to whom may be applied without injustice the emphatic words with which Tully has depicted the character of Curio: “ *neminem, ex iis quidem qui aliquo in numero fuerunt, cognovi in omni genere honestarum artium tam indoctum, tam rudem; nullum ille poetam noverat, nullum legerat oratorem, nullam memoriam antiquitatis collegerat.*” * That there are such men in the two professions referred to, as in ours, is unquestionable; that their proportion is fully as large in those professions as in ours, is equally certain; and those among us who have overlooked this obvious fact, and claimed for the medical profession the bad eminence of a monopoly of all the evils of imperfect and faulty education, are certainly guilty of extreme injustice to their neighbors in the other walks of life.

But it may be said, that admitting the education of the physicians of this country to have been necessarily affected by the peculiarities of our form of government; and admitting also that it is in no respect

* *Brutus*, 59.

inferior to the education of our clergy and lawyers; it will yet by no means follow that no efforts should be made towards its improvement. Such improvements from the peculiar condition of our people, it may indeed be difficult to accomplish; but its accomplishment is not impossible; and the difficulty should therefore not occasion despondency, but rather stimulate us to increased exertions to effect so desirable an end.

Undoubtedly this is reasonable and perfectly true. Efforts should be made, vigorous and constant efforts, to improve medical education. The improvement of that education is an object of vital importance to the community. And that it is not impracticable in this country is proved in the most satisfactory manner by the fact that medical education among us has already been signally improved. This will not be questioned by those who are acquainted with the changes that have taken place in all of our best schools of medicine during the last twenty or thirty years; their increased ability to impart definite, exact, and therefore real and useful knowledge, and the consequent increased fitness of their graduates, as a body, for the business of their profession.

But the question which has been most discussed is not whether improvement is required or is attainable, but rather what improvement should be made, and how it should be made.

Charges against the Schools.—The examination of this subject involves of necessity a reference to the principal objections which have been urged against the medical schools of the United States, some of which are certainly entitled to mature and candid consideration.

The most prominent and important of these objections are two in number.

In the first place, it is complained that young men are received into the schools as pupils, who from deficiencies in their general education are wholly unqualified for any literary and scientific pursuit; and, secondly, that pupils are permitted to graduate too early and too easily, and to be made Doctors in Medicine after a course of study so brief, that it is impossible in the nature of things that they can have acquired, whatever their capacity, an adequate and sufficient amount of professional information.

Insufficient Preliminary Education.—The first of these objections is beyond question well-founded, and is of very great importance. There can be no doubt that the admission into the schools of medicine of pupils who are not provided with sufficient preparatory education, is the great predominant evil in our system of medical teaching;—an evil of such magnitude that until it is corrected no improvement can

be made that will be of any substantial and permanent utility.

But it may be proper to explain, that in speaking of deficient education, I use that expression not in the restricted and narrow sense in which it is commonly employed, and especially by men of books, as meaning simply that the persons who labour under this disadvantage have not been instructed in certain foreign languages, particularly the Greek and Latin, and in mathematics, and natural and moral philosophy. The imperfect education which I speak of consists in the want of proper training of the mind to habits of attention and application,—to the habits which are indispensable for the discovery and comprehension of truth. This training may be effected by various methods, though best perhaps by the study of languages and philosophy. Without it, no man is well-educated or can be prepared to enter with advantage upon the study of Medicine, or upon any other pursuit requiring exercise of the intellectual faculties. Pupils who come to the schools of Medicine destitute of such training, are in many cases scarcely at all capable of acquiring professional knowledge. They have not learned the art of learning,—the great art which it should be the principal object of all education to communicate. Every medical teacher knows the difficulty of imparting scientific

instruction to minds thus unprepared for its reception, unaccustomed to the discipline of study, and unused to habits of active exertion.

In addition to this kind of education, acquired by whatever mode of discipline, it cannot but be considered highly desirable that the student of Medicine should form, before commencing his professional studies, some acquaintance with literature, and should be prepared for what is called a learned profession by at least some tincture of learning. It is justly urged, that a physician's literary education, whether good or bad, is often in a great measure decisive of his intellectual and moral character; that it regulates his ability and fitness for many of the principal and most useful duties of his profession; and that the reputation of that profession,—the estimation in which it is held by enlightened persons engaged in the other pursuits of life,—depends not barely upon the strictly professional attainments of its members, but also in part, and in very large part, upon their acquaintance and familiarity with those elegant and ennobling studies—poetry, philosophy, eloquence, history,—which are common to the cultivated and refined in every profession, and which “he who knows not, knows not man's divinest lore.”

That students are sometimes admitted into our

Medical Schools without the mental training and acquirements which we have been speaking of, is certainly a great evil; but it belongs unfortunately to that large class of evils which it is much easier to detect than to rectify.

Higher Education.—The obvious remedy, as some suppose, and one which has been strenuously recommended, is that the Medical Schools should insist on a higher standard of literary education; should receive none into their classes who have not been trained and elevated up to that standard; and should demand that their pupils be scholars before they attempt to become physicians.

This comprehensive method of reform, however excellent in many respects, appears to be obnoxious to the two very grave objections, that, in the first place, it cannot be enforced, and, in the second, if it could be, it would be certain to occasion greater evils than those it was intended to remove.

It cannot be enforced. It is not at all probable that the present Medical Schools will ever agree upon any proper standard of preliminary education; or that all of them would honestly and faithfully observe such an agreement, should it be made. And even if this were done, it would be to no purpose; for other schools would at once be established with the avowed

intention of opposing what would be denounced as an oppressive and aristocratic measure, and of maintaining the inestimable republican privileges of ignorance and illiteracy.

The proposed remedy, if it could be employed, would occasion much evil,—probably, more evil than good.

Those who desire to exclude all but men of learning from engaging in the study and practice of Medicine appear to have closed their eyes to a very obvious and important objection to their proposition. In the United States, as in all other new countries, and probably also in all old countries, there are numerous districts where the population, sparse and indigent, are wholly incapable of affording a satisfactory remuneration to physicians who have received a costly education. Among such a population such physicians will of course not reside. Are these people then to be denied the benefits and blessings of medical relief? Shall they be told, that since they are unable to procure the services of thoroughly educated men of science, they shall therefore receive assistance from no one? Such a decision would be scarcely consistent with wisdom; it would be still less consistent with humanity; and if this be the new wine recommended by the medical reformers,

there will be many, we may justly hope and expect, who will exclaim that the old is better.

To prevent persons who have not had the benefits of a regular education from acting as physicians, even if it were expedient and desirable, is, under our present form of government, and with the prevalent feelings of our people wholly impracticable. Such persons might possibly be refused admission into the Medical Schools; but where is the power to prohibit them from undertaking the treatment of diseases? Debar them from the advantage of medical instruction,—deprive them of their present means and opportunities for acquiring some moderate share of professional knowledge,—and they would notwithstanding be employed among the same population in treating the same maladies as at present. Wherever there are diseases among men, there will be efforts to minister relief to the sufferers. The only question, in cases where the services of the best qualified physicians cannot be obtained, is whether these efforts shall be made by persons who have received a certain measure of instruction, and who possess a certain degree of knowledge and skill, or by those who being wholly untaught are entirely destitute of all power to be useful. The answer to this inquiry is evident. It is certainly better that the treatment of diseases should be in the hands of physicians who have been

trained by competent and skilful teachers, under however unfavourable circumstances, rather than in those of persons entirely uninstructed, whose abilities in leechcraft are consequently like the universe of the Epicureans, "the glorious work of chance," and whose fitness for the practice of Medicine falls within the limits of no law of probabilities known to Professor De Morgan or to any one else.

There seems then to be but too much reason to believe that in this country and at the present time, any great and sudden elevation of the standard of preliminary education required of students of Medicine, is inexpedient and impracticable; and that the attempt to enforce such a change would be not only unsuccessful, but also pernicious and inhuman.

While we admit this unwelcome conclusion, we may derive consolation from reflecting that the condition of our profession is in this respect not worse at present than it has been in all preceding periods; and that indeed the education of its members, both general and professional, is probably very much better at this time than it ever was before.

You have often, I know, heard a different opinion expressed. You have also heard it proclaimed, in tones sometimes of lamentation, sometimes of indignation, that it is chiefly the insufficient education of many of the young men who have of late been en-

tering upon the study of Medicine, which has led to the great and lamentable decline of our profession in the respect, esteem and confidence of the community.

Such opinions have been asserted on certain public and very important occasions. With due deference for better judgments, I believe these opinions to be entirely erroneous. The supposed cause and the supposed effect are equally imaginary. The students of the present day are at least as well educated as their predecessors; and the profession stands as well as it ever did in the estimation of all intelligent and competent judges of character.

Whether such judges constitute as large a proportion as they once did of the people of this country; or whether we have now among us a much larger proportion than formerly of persons of a wholly different character,—shallow and presumptuous scio-lists, knowing nothing and professing to know all things,—dabblers in superficial omniscience,—is a question which I have far too much love and reverence for our excellent countrymen both of native and foreign birth, to presume to discuss. It is a question, however, which might perhaps be decided without the necessary admission of any decline in the merits of either the students or the physicians of the present time.

The following propositions in relation to this sub-

ject can, I think, be shown to be, in the main, true and correct:

1. That the Medical profession has always comprehended in its ranks persons of widely different intellectual and moral characters,—some of the wisest and best of men, and some not so wise and not so good; and its members have in all ages been judged and estimated by men of sense not according to any supposed general character and reputation of their class, but each one of them according to his individual qualifications and merits.

2. That well educated and competent physicians are as much respected at present as they were in any former age by the intelligent part of the community.

3. That such physicians form probably a larger proportion of the profession at this time than they ever did before;—certainly as large a proportion.

4. That physicians of a different and opposite character enjoy also at this time, as they have always done before, a very good reputation with that numerous class of people, whether rich or poor, who resemble them in culture, knowledge, judgment, and morals.

5. That this valuable and important class are as well qualified at present as they have always been to estimate correctly the claims and worth of medical men; and their decisions are entitled to as much re-

spect in the 19th as they were in the 9th, or in any other century.

The disparaging comparison of the medical students and young physicians of the present with those of former times, is generally made by philosophers who, like Othello, are somewhat "declined into the vale of years," and have yielded to the tendency, so common in the evening of life, to admire and applaud the men and institutions which surrounded them in their early days, and to look with distrust and contempt upon all merit and excellence of modern origin.

Such comparisons, when made, as they occasionally are, by antiquated members of the medical profession, have sometimes had the effect of recalling to the minds of irreverent youth the remark of the satirist:

"You'd think no fools disgrac'd the former reign,
Did not some grave examples still remain."

While the demand for cheaply educated physicians continues, the supply will doubtless also continue. But this demand is gradually diminishing, and must diminish still further as all parts of our country grow more populous, and as wealth and intelligence become more generally diffused among the people. A favourable change has already taken place. The number of well educated young men who engage in the study of medicine is every year increasing. But

this improvement cannot be accelerated by rash and hasty legislation on the part of the schools, or of the profession in general. It must be mainly the growth of time and of circumstances. Its progress may be promoted and aided by the colleges in some degree, and still more efficiently by the private medical preceptors under whom the pupils commence the study of Medicine. It is these private instructors who have, in general, the best opportunity of knowing beforehand the capacity and acquirements of the young men who apply for admission into their offices. It is they who are best acquainted with the fitness or unfitness of such applicants to engage in professional study. It is chiefly to these instructors, and not to the Schools, that censure is due when persons not qualified for such a pursuit have been permitted—or, as is sometimes the case—persuaded to attempt the study of Medicine.

How far the Schools might succeed in lessening the evil complained of, by requiring a longer term of study of those who have not received a liberal preparatory education, or by making a difference in the diplomas and titles which they bestow, according to the character of the literary education of their pupils; is a question perhaps not unworthy of consideration. Some advantage might result from the latter expedient, especially to the reputation and good name of

the profession. Whether it would occasion any evil of such magnitude as to countervail its beneficial effects, I am not prepared to say. But it is not likely that the experiment will be tried.

Brevity of Study.—With regard to the second objection which was referred to—the undue shortness of the period which medical students are required to devote to professional study before they are allowed to graduate,—we have again to admit the truth of the charge, and again to plead the peculiar condition of our people—*res dura et regni novitas*—as the cause of the existing usage, and as its best and sufficient apology.

The circumstances of a large proportion of the young men who among us betake themselves to the study of Medicine, are such that it is important for them to consume as little time as possible in preparation, and to enter as early as they can upon the business by which they are to gain their livelihood. To require for such pupils a much longer term of study would be to no purpose. The requisition would not, and could not be heeded. They could not hesitate between the counsels of science on the one hand, and the demands of necessity on the other. For this evil, I see not that the Schools have power to supply any remedy. They advise and urge their pupils to at-

tend more than two courses of lectures; and to induce them to do so, they offer them instruction after the second winter free of expense. If students cannot afford to devote more than two winters to attendance in the Colleges, all that can be done is to render them during that time the utmost assistance that they are capable of receiving. And it is certainly better that they should be carefully instructed for two years than not instructed at all.

Some limit, however, should be fixed to concession, whatever the plea for indulgence. In some of our Schools it is ordered that no one shall be eligible for a degree who has not been professedly engaged at least three years in the study of Medicine. This regulation cannot be considered as too exacting. The time which it demands is certainly not more than enough for the acquisition of even a moderate acquaintance with an extensive, complicated, and most important department of knowledge. No one, whatever his abilities, if not equal to those of the admirable Crichton, can be prepared in less than three years for the duties and exigencies of a profession of which is eminently true what Lord Coke says of the profession of Law—that “its study is abstruse and difficult, its occasions sudden, its practice dangerous.” If there be any ground for regret, it is not that the requirement of three years is too rigid, but that it is

so much easier to make and publish good laws, than faithfully to maintain and enforce them.

Sessions too Brief.—The collegiate term in many of our Medical Schools consists of only four months in the year, and this period has been pronounced by some distinguished teachers to be far too brief to admit of a sufficient attendance on lectures.

An animated discussion on this subject has occurred among some of the most prominent of those who have taken part in the efforts now, or lately in progress for the improvement of medical education in this country. One party holds that four months in the year are fully enough to be devoted to lectures, and is opposed to any extension of the sessions. The other insists on six months as absolutely necessary, and professes to consider the enforcement of this period as the *articulus stantis vel cadentis academice*—the sufficient test by which a good school may be discriminated from a bad one. They tell us that the extent of medical science, has, of late, been so greatly increased that it is utterly impossible for the teachers in a school to go over the whole subject in four months, or in five, but that it may be done in six.

Those who contend for longer sessions appear to make too high an estimate of the value of lectures as one of the means of imparting medical knowledge. Lectures are undoubtedly useful; but they are not

the most useful of those means. They are of less utility than a judicious course of reading, or than the experience gained in a Hospital; and they should not be allowed to engross too large a part of the student's time to the prejudice of other modes of study.

Listening to lectures can never supply the place of reading, or form a sufficient substitute for books. This, one would think, must be manifest to all who have ever heard a lecture and read a book.

The greatest advantage that could result from lengthening the Collegiate Session would be the longer opportunity thus afforded to the pupil for the prosecution of Practical Anatomy and Clinical observation. The greatest disadvantage would be the undue curtailing of his time for reading; and for this evil it would be scarcely possible to find an adequate compensation.

Trivial Examinations.—That students in our Medical Colleges are allowed to graduate too easily, would appear to follow as a necessary consequence upon the short period of time which they can afford to devote to study.

The facility of obtaining a diploma varies somewhat in different Schools; but in none of them is the examination of candidates less rigid than that to which the students of Law and Divinity are subjected, before they are admitted into the ranks of their respec-

tive professions. The examination of these students is generally supposed to be not excessively severe. The rejection of a candidate occurs, I believe, hardly ever. When Washington Irving was an applicant for admission to the Bar, the slight difficulty thrown in his way by the almost unexampled scrupulosity of his examiners was removed by a jest—"Martin," said one of them to the other, "I think Irving knows a little law,"—"Make it stronger, Joe," was the reply, "Say *damned* little;" and with this compliment was the ingenious Diedrich Knickerbocker ushered into a profession with which—happily for the literature of his country—he was destined to have only a nominal connexion. I have been told by a learned and distinguished member of the Bar of Baltimore, that the only question which he addressed to a young gentleman whose proficiency in legal learning the Court had appointed him to ascertain, was respecting the authorship of the Waverley Novels. It was before the Great Unknown had ceased to be unknown; but the candidate who was perhaps better read in the charming fictions of that writer than in the graver pages of Bracton or Coke, replied, that from various circumstances he was inclined to believe that the author of the Novels was Sir Walter Scott. "That, sir," said the examiner, "is exactly my own opinion, and as we agree so happily on this subject, I cannot doubt

your full preparation for the legal profession, and will accordingly sign your testimonials with great pleasure." The students of Divinity are said to find the inquisitors into their professional attainments equally gentle, and to hear not many questions more abstruse than that which Lord Eldon reports as the only one proposed to himself at Oxford in his examination on the Hebrew tongue, and which referred simply to the term in that venerable language *for the place of a skull*.

If such leniency be allowable in the other professions, it can scarcely be very eensurable in ours. I know it has been said, but certainly it was said not very wisely, that it is far more important to the public welfare that young physicians should be thoroughly educated, than that young lawyers and divines should be equally prepared for the duties of their professions. It would be difficult to prove that skill in the treatment of fevers and inflammations, of dislocated joints and broken bones, is of more moment to mankind than fitness and ability for the advocacy of justice, the defence of reputation, the vindication of personal liberty, the inculcation of moral principles, and the teaching of the solemn doctrines of revealed religion. But, be this as it may, I can assure you that the examination for the Medical Degree, though perhaps less strict than is desirable, is by no means a

mere formality. You need not entertain apprehensions of being subjected at the close of your collegiate studies to the indignity of a mock trial; for in none of the Schools will you be made Doctors of Medicine before you have answered many questions which cannot be answered properly except by such as have devoted to professional study a fair measure of industry and diligence.

Prospect of Improvement.—While it is freely admitted that the objections which we have been examining are not without force, I am far from thinking that the evils complained of are of such magnitude as has sometimes been represented. There is at present a proportion, not inconsiderable, of students of Medicine who have had the advantage of a liberal education—a much better education than that which the Medical Association of the United States have recommended as sufficient;—and this proportion is, as I have before stated, every year increasing. There are also many, who having adequate means, devote sufficient time to medical study, before they enter upon the active business of their profession; and this class also will probably continue to increase.* In both of these respects let us hope there will be greater and more rapid improvement than ever before, when

* Tarpeia quondam prædixit ab ilice cornix,

Est bene, non potuit dicere, dixit, erit.

OVID.

the great war which is now rending our continent shall be at an end, when the will of God shall be accomplished, and when we shall awake wiser, if not sadder men, and hail the day which restores to our land the blessings of peace:—

“O day thrice lovely! when at length the soldier
Returns home into life; when he becomes
A fellow-man among his fellow-men!”*

What the Schools have done.—That our Schools are not destitute of merit, may be justly argued from the general character of those whom they have educated—the Medical Profession of our country. Of that profession no one will deny that as a class they are highly skilful in their peculiar vocation; that they possess as much mental culture and liberal knowledge as are found in either of the other learned faculties; that they are conspicuous for probity and benevolence; and that, in short, they rank second to none in that only real respectability which is founded on purity of principles and usefulness of life.

The system of education by which such a class of men have been trained cannot be justly denounced as useless. But neither is it to be commended as faultless and perfect. The Medical Schools of this country, like the Medical Schools of other countries,

* SCHILLER.

and like all schools and all useful institutions of all countries, require improvement, and, however much improved, will always require further improvement. Let such improvement be made and continued, and let no one connected with our schools feel any sympathy with that dull and wicked spirit of selfish conservatism which prefers darkness to light, and dreads reform as hostile to its interest. Far from all teachers of Medicine be such oblivion of their duty to their pupils, to their profession, to the community, and to themselves, as would suffer them to view with aversion or with indifference any measures tending to advance and elevate the character of medical education, and thereby of the medical profession. They should be ready, and I believe that in general they are ready, to exert themselves to the utmost, and among the foremost for the accomplishment of that end. But respecting the means and the method, they should be allowed some liberty of judging—" *Priusquam incipias, consulto; et ubi consulueris, mature, facto opus est.*"* They should be permitted to remember, that to make changes is not necessarily to make improvements; and that to effect reforms, wisdom is fully as necessary as energy and despatch.

From what has been said, you will infer that I ex-

*SALLUST, *Catil.* 1.

pect no very sudden and rapid improvement in our system of Medical Education. But do not suppose that I consider improvement either unnecessary or impossible. I entertain no such opinion. And neither do I advise that we should sluggishly content ourselves to await and expect the slow action of time. For time, though it be called by Bacon the *great innovator*, is, as Bacon well knew, only figuratively such, having in reality no power to make changes either good or evil, and leaving all things after its longest lapse just as it found them, unless during its flight some positive causes sufficient to produce effects have been in action. Such causes in the present case should be wisely and strenuously applied. From what we have already witnessed, we have reason to believe they will not be applied in vain. But the evils which still adhere to the Schools will not be removed at once. The improvements which are still needed will not be accomplished to-day or to-morrow. Great and useful changes in human institutions are rarely made speedily, and never made easily. "In the corrupted currents of this world," the motion is ordinarily and naturally from bad to worse. To move in the opposite direction is like voyaging up the Mississippi without steam, and with hostile batteries on the bluffs. You, and all other medical students of the present generation will probably gradu-

ate in Schools which are far from being in all respects what they ought to be. And your future sons and grandsons, "*nati natorum et qui nascentur ab illis*," should they be so wise and fortunate as to study Medicine, will also, like yourselves, and like Haller, and Boerhaave, and Sydenham, and Cullen, and the great masters of our science, receive their diplomas from Colleges not one of which will be wholly free from all stains of imperfection.

From these truisms, equally obvious to all, what conclusion is to be derived?

Principally and especially this, that the student should be on his guard against attaching undue importance to Schools, and that he should understand that the character and quality of his medical education, whether good or bad, will depend not entirely, and not chiefly upon the teachers by whom he has been usefully instructed, or by whom he has been neglected or misled.

What the Schools, even the best schools, can do for their pupils is trivial and insignificant in comparison with what those pupils can do for themselves, with what they must do for themselves, if they wish to acquire knowledge, ability, and fitness for their profession.

I mean in thus speaking no disparagement to the Schools; for I think highly of their value and utility.

They are, no doubt, useful to many of their pupils. But they help only those who co-operate with them, and labour to help themselves. To such as cannot or will not assist themselves, no effectual assistance can be given by teachers, or by any other extraneous agents.

The most important service that a Medical School can afford its pupils, is to furnish them the means and opportunity for the study of Anatomy, and the means and opportunity for the study of diseases in the wards of a Hospital. Other modes of assistance may be useful, but these are indispensable; and if these are supplied, the student will seek in vain for any valid excuse for an insufficient professional education.

With opportunity for the study of Anatomy, and of Clinical Medicine, and with the abundant supply of useful books on Medical Science which is now everywhere at hand, if the student continue in ignorance, it may be doubted whether any combination of external circumstances could have endowed him with the requisite qualifications for his profession. The deficiencies of his education will probably be found to depend upon causes nearer to himself than any negligence or incapacity of his teachers; and they would have been the same had he sat at the feet

and listened to the teaching of the wisest Gamaliels of the present or of any former age.

The defects of the Schools in which he studied, or pretended to study, can afford no excuse for the medical student who neglects to read, and to form acquaintance with the ample and noble literature of his profession;—that wonderful and inestimable literature in which, more than in any other of the works of men, are displayed and manifested the foresight, sagacity, ingenuity, and wisdom of the human mind.

In any of our Schools, even in the worst, the student who will be faithful to his duty and interest, and will exert himself with energy and diligence, may obtain useful assistance and preparation for the successful prosecution of that part of his education, infinitely the most important of all, which he is to bestow upon himself, and which consists in the intelligent observation and study of the facts which will be continually presenting themselves to his notice as long as he continues engaged in the practice of his profession.

In any of our Schools, even in the best, the student who inertly and passively depends upon his teachers, and hopes to learn science by proxy, and to become a physician without thought, effort, or labour, will be fatally disappointed, and will inevitably and utterly fail. This truth is so evident, that it seems al-

most idle to assert it; and yet it is so often overlooked by students of Medicine that a teacher cannot, without culpable neglect omit to recall it to their attention.

“*Non est ad astra, mollis e terris via.*”* There is no royal road to Heaven, or to Geometry, or to Medical Science; and the Schools have no power to construct such a road for their pupils. If, for any reason, good or bad, whether honourable ambition, “that last infirmity of noble minds!” or the pure love of knowledge for its own sake, or the purer love of knowledge for the sake of the power to do good, which its possession bestows; if for any of these, or for any other motives, you wish to be wise in the science and art of your profession, remember that for this, or any other excellence or eminence in life, you must consent to pay the appointed price, and that the price is labour,—your own labour, and not the labour of your teachers.

What was said by an illustrious civilian respecting the crowded state of the Profession of Law, is equally true in relation to the same condition of the Profession of Medicine,—that the crowd is confined to the lower stories, and that the higher and more desirable apartments are comparatively empty. If you wish to ascend to those elevated regions—

* SENECA, *Hercules Furens*, 427.

———"Bene munita tenere,
Edita doctrina sapientum, templa serena;"*

if you wish to separate yourselves from the pressure and presence of the common rabble of professional competitors, this can be accomplished only by the judicious and persevering culture of the natural abilities which God has given you. It can be accomplished only by those who value knowledge above all things else, except virtue and honour; only by those, who in the quest of excellence, "think nothing done while aught remains to do;" only by those who are filled with that heroic spirit, which in the pursuit of a noble end counts not itself to have apprehended, but forgetting those things which are behind reaches forth unto those which are before.—"*Sic itur ad astra.*"†

* LUCRETIVS, 2, 7.

† *Æneid*, 9, 641.

